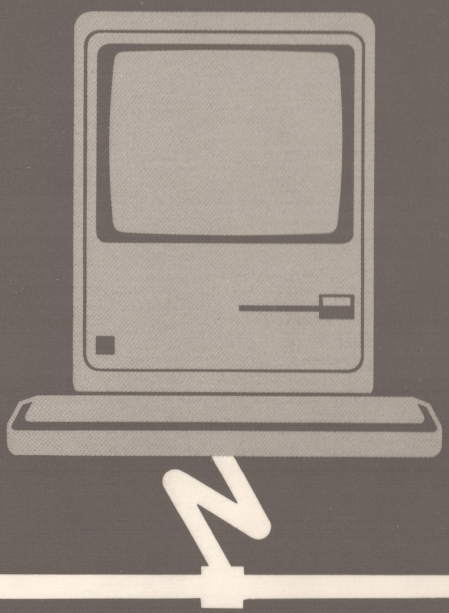
TOPS®

Macintosh Version



TOPS
A Sun Microsystems Co.

Macintosh

TOPS®

TOPS

TOPS®

Macintosh Version

TOPS
A Sun Microsystems Co.

K2020097

Copyright

Copyright © 1987 TOPS, A Sun Microsystems Company. This manual and the software described in it are copyrighted with all rights reserved. Neither the guide nor software may be copied in whole or in part without the written consent of TOPS, except in the normal use of the software by the owner to make "working copies" for the purchaser's own use as described in this manual.

Trademarks

TOPS® is a registered trademark of Sun Microsystems, Inc.
TOPS Spool™ licensed from THINK Technologies, Inc. Copyright 1986 by THINK Technologies, Inc. All rights reserved. Reproduction or dissembling of embodied programs prohibited. TOPS Translators © 1984, 1987 Dataviz, Inc. All rights reserved. IBM is a registered trademark of the International Business Machines Corporation. IBM XT and AT are trademarks of the International Business Machines Corporation. Apple is a registered trademark of Apple Computer, Inc. AppleTalk is a trademark of Apple Computer, Inc. MS-DOS is a registered trademark of Microsoft Corporation. UNIX is a registered trademark of AT&T. Jazz is a trademark of Lotus Development Corp. Ready! is a trademark of Living Videotext. PageMaker is a registered trademark of Aldus Corp. Word Perfect is a trademark of Word Perfect Corp. McMax is trademark of Nantucket Corp. Microsoft Word is a registered trademark of Microsoft Corp. dBASE Mac is a trademark of Ashton-Tate. DBMAN Mac is a trademark of Versasoft Corp. MacPaint is a trademark of Apple Computer, Inc. FullPaint is a trademark of Ann Arbor Software. SuperPaint is a trademark of Silicon Beach Software, Inc. Adobe Illustrator and PostScript are registered trademarks of Adobe Systems, Inc. MacBottom is a trademark of Personal Computer Peripherals Corp.

Limited Warranty on Media and Manual

Even though TOPS has tested the software and reviewed the documentation, TOPS makes no warranty or representation, either express or implied, with respect to this software, its quality, performance, merchantability, or fitness for a particular purpose. As a result, this software is sold "as is", and you the purchaser are assuming the entire risk as to its quality and performance.

In no event will TOPS be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect in the software or its documentation. In particular, TOPS shall have no liability for any damage to programs or data used with TOPS products, including the costs of recovering such programs or data.

The warranty and remedies set forth above are exclusive and in lieu of all others, oral or written, express or implied. No TOPS dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty. This warranty gives you specific legal rights, and you may have additional rights which may vary from state to state.

Table of Contents

1. Introduction 1
Getting Started Quickly 1
A Little Network History 3
Disk Servers and File Servers 4
Dedicated Servers and Distributed Servers 4
Compatibility Among Operating Systems 4
The TOPS Solution 5
Macintosh-Only Networks 6
Networks of Macs and PCs 6
TOPS Terminology 7
TOPS Icons 8
Working on a LAN 9

2. Getting Started 11
Copying TOPS Software 11
Connecting to the TOPS Network 11
Installing TOPS 12
TOPS Spool and TOPS Translators 13
Space-saving Options 13
Updating TOPS 13

3. Getting Familiar 15
Opening the Desk Accessory 15
Signing On 16
Changing Your Name 16
Elements of the TOPS Desk Accessory 16

4. Server Activities 19
Listing Contents of Your Volumes 19
How to Publish a Volume 20
Restricting Access 22
Auto-publishing a Volume 23
How to Unpublish a Volume 23
Listing Your Clients 24
Unpublishing an Auto-Published Volume 25

5. Client Activities 27
Listing Network Stations 27
Listing Volumes Published by a Station 28
Listing the Contents of a Published Volume 28
How to Mount a Volume 29
UNIX Volumes 29

Mounting with Limited Access 30
Auto-mounting a Volume 30
Opening a Mounted Volume 31
How to Unmount Volumes 32

6. TOPS Copy Operations 35
The Copy Button 35
Copying Software Applications 36
Text Conversion 37
Viewing Remote Documents 38

7. Getting Organized 39
Organizing Your Disks and Files 39
File Naming Conventions 39
An All-Macintosh Network 39
A Mixed Network 40

8. Tips for Power Users 43
Short Cuts 43
Technical Miscellany 43

9. TOPS Translators 47
Introduction 47
Installing TOPS Translators 48
Running TOPS Translators 48
Set Translators Screen 49
Select Files Screen 50
Converting the File 52
Other TOPS Translators Options 53
Sample Files 53
The Translators 54
Word Processing Documents 54
Spreadsheets 55
Databases 55
Other Formats 55
Automatic Conversion 58
TOPS Translators File Menu 58
TOPS Translators Preferences Menu 59
TOPS Translators Log Menu 61

10. TOPS Spool 63
Introduction 63
Laser Printing Before TOPS Spool 63
Advantages of TOPS Spool 64
Spooling 65
Overview of TOPS Spool 65
Benefits of TOPS Spool 67
Getting Started With TOPS Spool 67

What You Need To Begin 68
Installing TOPS Spool 68
Guided Tour of TOPS Spool 70
TOPS Spool Desk Accessory 73
Jobs 73
Buttons 74
Menus 74
Using TOPS Spool with Other Products 75

A. A Ten Minute Guide to All of TOPS' Features 77
Opening the Desk Accessory 77
Browsing Local Volumes 77
Publishing a Volume 77
Listing a Volume's Clients 78
Unpublishing a Volume 78
Unpublishing Many Folders in One Volume 78
Unpublishing All Your Volumes 78
Browsing Remote Volumes 79
Mounting a Remote Volume 79
Choosing Your Access To a Volume 79
Listing Mounted Volumes 79
Unmounting a Volume from the Finder 80
Unmounting a Volume from TOPS 80
Unmounting Many Volumes from the TOPS Desk Accessory 80
Unmounting All Remote Volumes from the TOPS Desk Accessory 80
Copy File From Local to Remote 80
Copy File From Remote to Local 81
Copy Conversion 81
View a File Within the TOPS Desk Accessory 81

B. Troubleshooting and Error Messages 83
Troubleshooting 83
TOPS Error Messages 84
Booting 84
Signing On 85
Opening 86
Mounting/Unmounting 87
Publishing/Unpublishing 87
Copying 88
General 88
TOPS Translators 89
Troubleshooting 89
Error Messages and Codes 89
TOPS Spool 92
Troubleshooting 92
Error Messages 95

Index 99

Chapter

1

Introduction

Welcome to TOPS! We are confident that you've made the right decision in choosing TOPS as your local area network — whether you plan an all-Macintosh LAN, or one with a mix of Macs, PCs, and UNIX-based computers.

Most local area networks are notorious for complicating a computer user's life. TOPS is different. TOPS was designed to be easy to install, easy to learn, and — above all — easy to use.

No doubt you already know that TOPS consists of software for the Macintosh, and software with an add-on card for IBM PCs and compatibles. Up to 32 computers can be connected with AppleTalk cabling, and any number of computers can be added with the help of TOPS Repeaters or AppleTalk bridges. Both LaserWriters and AppleTalk ImageWriters are supported by TOPS.

Getting Started Quickly

Getting started is a snap. Just connect your AppleTalk cables to the printer port in back of your Macintosh. Then make a copy of TOPS Disks 1 and 2. Reboot your computer from this copy. TOPS is running. (See Chapter 2 for information on installing TOPS.)

Once TOPS is installed, it will take about another 10 minutes to get the hang of TOPS networking. Like most Macintosh products, much of TOPS is self-explanatory. The few parts that aren't self-explanatory are for advanced users. If you do like options, though, these are equally easy to access. You simply press the Option key on your Macintosh keyboard when you click a TOPS button. Or, instead of pressing the keyboard's Option key, you can press the Option button at the top of the TOPS desk accessory.

For experienced users, here's a quick description of how to use TOPS. If you are new to networks, feel free to skip over this section.

1. Select TOPS from your desk accessory menu. If this is the first time TOPS has been opened, a dialog box will appear, asking you to give your computer a network name.

2. Type in a name and click OK. Now the TOPS desk accessory window will appear with a list of your computer's volumes on the left, the TOPS buttons in the center, and a list of the network's file servers on the right.

3. Select an entry from either list and click the Open button (or double-click the entry). The list will change to show the contents of your selection. The heading at the top of the list will indicate what you are looking at.

4. Publish a volume — that's TOPS' term for "make your files available on the network" — by selecting the name of a disk or a folder from the list on the left and clicking the Publish button. For additional security, press the Option key while you click Publish; you can give your volume a password or otherwise restrict access.

5. Remove the volume from the network by selecting it and clicking Unpublish. If anyone else is using your volume, a warning message will appear. If you want to find out who is using a published volume before you unpublish it, select the volume name and click the Help button: you will get a list of the other stations that are using your volume.

6. To access a remote volume, select a file server from the list on the right. Click the Open button to see the volumes that have been published on that station.

7. Select a volume, click Mount, and close the TOPS window. The volume will appear as an icon on your desktop, as if it were a local drive. You can mount up to six volumes at a time.

8. Unmount a volume either by dragging its icon to the trash on your desktop, or by using the TOPS desk accessory. (When you select a volume that is already mounted, the Mount button will have changed to Unmount.) If you have mounted several folders within a volume, you can unmount them all at once by selecting the volume name and clicking Unmount. As you might have guessed, you can click the Help button to get a list of the mounted folders.

9. When in doubt, TOPS is there to help you. The Help button (or Command-I) provides an explanation of each of TOPS' features. Select Help alone and windows will appear that describe each of the buttons. Click for Help after you've selected another entry in the TOPS window and the windows will explain your selection and the options that are available to you. To skip around the tutorial help,

hold down the Option key or remove the "TOPS Help" file from your system folder.

That's about all there is to it. The rest of this manual will give you a little networking history. It will describe the TOPS system in more detail, and give you some pointers on successful networking. But basically, you now know all of the essential elements of TOPS. For an introduction to the TOPS Translator and TOPS Spool utilities, see Chapters 9 and 10.

This manual is intended to help you with many possible network configurations, from an office with a few Macintoshes to one with a mix of Macs, IBM PCs, PC compatibles, UNIX systems, and miscellaneous hard disks. It describes the TOPS system, commands and options in a modular fashion so that you can acquire networking skills quickly.

A Little Network History

Before microcomputers, people used terminals to talk to remote computers via cables or telephone lines. These terminals were dumb in the sense that they had no facility to process or store data. All processing and storage was handled by the remote computer. In this way, many people could share the same information stored in the large central computer. They could also share the resources attached to that computer such as printers and tape drives. This way of connecting terminals to large mainframe computers is known as timesharing.

Today, the miniaturization of processing components and the development of compact data storage units allow people to have entire working computers of their own. These self-contained computers are microcomputers. They have the advantages of low cost and local storage, but they have one enormous disadvantage: generally, they cannot share data unless a floppy disk is physically carried from one computer to another.

In most offices, many different workers need access to the same information. Companies with microcomputers keep duplicate sets of information in many different computers. Making sure that duplicate sets of information remain identical is an enormous task. To solve this problem, local area networks (*LANs*) for microcomputers were developed. LANs physically wire computers together so that each computer can access shared disk storage.

Some of the goals of a LAN are to provide communication between machines and to share data among many users. LANs also provide other important services. They allow users to share expensive hardware such as laser printers, communication devices, and mass storage devices like hard disks and tape backup units. There are many excellent schemes which allow one or more of these goals to be realized.

The different kinds of file sharing networking systems currently available fall into two main categories: disk servers and file servers.

Disk Servers and File Servers

Disk servers offer shared hard disk storage to many users on a network. In such a system, all users share a central hard disk which may be either a dedicated piece of hardware or the disk inside one of the computers on the network. Each user on the network is allocated a fixed-size *volume*, or partition, on the hard disk of the disk server. Typically, these volumes can be used by only one user at a time. When a volume is in use, it may not be accessed by others.

Disk servers simply provide a way to share a hard disk or disks. They are not, for the most part, data sharing systems in the true sense.

File servers are a more sophisticated form of networking. File servers provide all users on the network access to stored data. "Network-smart" programs (such as some data base programs) allow several users to update the same file concurrently without compromising data integrity. They do so by employing file and record locking mechanisms.

Dedicated Servers and Distributed Servers

There is another important distinction between different networks: dedicated versus distributed file service. Some networks require a single, central device which acts as the repository of data. This single system provides network capabilities for all users.

A dedicated file server is usually a large hard disk with an intelligent controller. This device may be a dedicated Macintosh or other computer running network software or a highly specialized dedicated server which is not a computer. In either case, the cost of the server is significant in a small network. Further, failure in this device causes failure of the entire network.

In a distributed network, any computer on the net may act both as a server and a client simultaneously. The task of file service is distributed among all the servers on the net. This reduces the cost of the network and increases reliability. If one of the servers on the net fails, the rest of the stations on the network can continue normal operations without disruption. It also avoids traffic delays because all users are sharing one disk.

Compatibility Among Operating Systems

Until recently, computers of different types could not effectively share data on a local area network. The operating system controlling one type of computer was unable to communicate with the operating system of another type of computer. This meant that it was virtually impossible to access

different kinds of computers and to share files without a complicated and time consuming translation program.

Simply stated, the computers all spoke different languages. Existing networks provided good communications between compatible computers such as IBM PCs and PC-compatibles, but there was no meaningful way to link IBMs, Macintoshes, and UNIX-based computers.

The TOPS Solution

TOPS has solved the problem of incompatible systems by developing a network operating system (a file system) that translates between different computer file systems. For example, it is possible for an IBM PC to share information with a Macintosh; this translation occurs automatically and transparently.

TOPS turns any computer on the network into a true file server. TOPS creates a distributed server environment, which allows a computer on the network to be either a simple workstation, a file server, or both at the same time. Most importantly, TOPS provides interconnectivity between different operating systems, as well as file and record locking to "network-smart" applications.

This version of TOPS uses the AppleTalk transport layer (developed by Apple Computer, Inc.) as a low-cost network solution. AppleTalk operates at 230,000 bits per second, which is approximately 200 times faster than a 1200 baud modem. Launching an application program over the net from a remote file server with a hard disk is not as fast as launching it from a hard disk, but is faster than launching it locally from a floppy. TOPS can also run on Ethernet with Ethernet cards from Apple and Kinetics, Inc.

The TOPS system allows different kinds of computers to share files, multi-user applications and peripherals. Each station on the network can offer its resources to the network as a server and, at the same time, use the resources of another station as a client.

The fact that one station is using the disk drive of another is transparent to both the computer user and the application programs. This makes it easy to access any resource that has been *published* (made available) through TOPS.

If you're using an IBM or compatible with PC-DOS or MS-DOS, both you and your IBM applications can access data stored on other IBM drives and even on Macintosh drives. (Incidentally, TOPS treats PC-DOS and MS-DOS the same, so only the term MS-DOS is used in this manual.) You can refer to a Mac drive just as you would a floppy or hard disk drive connected to your IBM. And you can even store your IBM applications on the Mac.

If you're using a Macintosh, both you and your Mac applications can access data stored on other Mac drives or on disks in IBM drives. IBM volumes will appear on your Mac screen as disk icons, just as if they were on the internal floppy drive of your Mac.

Macintosh-Only Networks

While an all-Mac, all floppy disk network will work with TOPS, you should have at least one hard disk on the network. This hard disk will be the repository of data for your network. If you have more than one Mac with a hard disk, each of these may act as a server to the network.

512K and 512KE Macs, Macintosh Pluses, Mac SEs, Mac IIs, and Mac XLs are all supported by TOPS, and can be mixed and matched on a TOPS Network. Since Apple included networking hardware inside every Macintosh, no add-on board is required for Macs to talk to each other. You need only the TOPS software and AppleTalk connectors and cables available at local TOPS dealers. We recommend TOPS TeleConnectors, although other connectors will also work.

IBM PCs and UNIX systems can be added to an all-Macintosh network at any time. IBM PCs and PC compatibles require TOPS/DOS and an AppleTalk connector such as TOPS FlashCard.

Networks of Macs and PCs

A TOPS Network that combines Macs and PCs allows files created on a Mac to be stored on a PC's hard disk, or vice versa. It also allows you to access any published file or application from any computer on the network, regardless of the types of computers involved.

To the Mac user, a file created on a PC looks like a document with the letters "PC" in it. Files created by a Mac and stored on a PC appear to the Mac as regular Mac icons, filled in with a representative design.

To a PC on the network, a remote volume (group of files) that has been published through TOPS is used as a PC drive (for example, drive E:). That means that even when a PC accesses a volume attached to a Mac, it looks and acts just like a local PC drive.

While TOPS translates between file systems, it does not translate data structures. That task is left for the application program you are using, or to TOPS Translators (described in Chapter 9), or to another translation utility. Some programs are smart enough to recognize a remote file's data structure and translate it as it is read from the data files. For example, Microsoft's Excel can read and write to several IBM data structures including Lotus 1-2-3. That means that, with TOPS, you can open a Lotus 1-2-3 worksheet file stored on an IBM PC while using a Mac running Excel.

Likewise, word processing applications can easily be accessed across operating systems. Microsoft provides a conversion utility so that a Word document created on a PC can retain its original format under Microsoft Word on a Mac. In most cases, MS-DOS text files can be read by Macintosh word processors but they appear with a number of unrecognizable characters. If you copy text from one computer to another over TOPS, you will have the option of deleting these characters (see Chapter 6). TOPS Help for a selected file displays an excerpt from the file that indicates whether your Mac can read all of the text or not. This useful and powerful feature makes it possible to use text created by almost any IBM word processor directly in popular Macintosh word processors such as MacWrite and Microsoft Word.

Since TOPS works in the background and presents network resources in the same form as its host operating system (whether the host is an IBM or a Mac) you can begin using TOPS right away without having to become familiar with a new operating environment.

TOPS Terminology

The following terms have special meanings within TOPS, and are used throughout this manual.

Station
Each computer on the network is a station. Each station is given a name by its user when he or she signs onto the network. A station name can have up to 31 characters on the Mac. (PCs are limited to 15 characters.)

Server
A server is any station that has published one or more volumes on the network.

Publish
When a station makes a group of files available to others on the network, the group is said to be published. The station then becomes a server.

Folder
Subdirectories within a PC or an HFS Mac volume are represented in the Mac version of TOPS by a folder icon. Throughout the manual, the terms "folder" and "subdirectory" are used interchangeably.

Volume
A volume is a specified group of files — a folder or an entire disk — that can be published by a station on the network.

Zone
TOPS Networks can be divided into groups of stations called zones. Dividing large networks into zones makes it easier to choose which volumes and printers you want to use since it narrows down your choices.

This is particularly useful for people in the same department or physical area in an office building. Division of a network into zones requires the installation of additional units called *bridges* that connect the zones together into a larger network.

Client
A client is any station using a volume published by a server.

Mount
When a station wants access to a published volume, the station must tell TOPS to make a software attachment of the volume to his or her computer. This is called mounting the volume. Once it has been mounted, the volume acts as if it were a disk drive on the client's computer.

Local
Local is an adjective used to describe any resource that is attached to your computer. For example, a "local printer" would be connected to your computer.

Remote
Remote is an adjective that refers to the resources located on the network. For example, you can use TOPS to mount a "remote volume."

HFS
Hierarchical File System — a file system that allows you to store files in folders on your disk. Apple introduced this file system in 1985.

MFS
Macintosh File System — the flat file structure found on older Macintoshes.

TOPS Icons

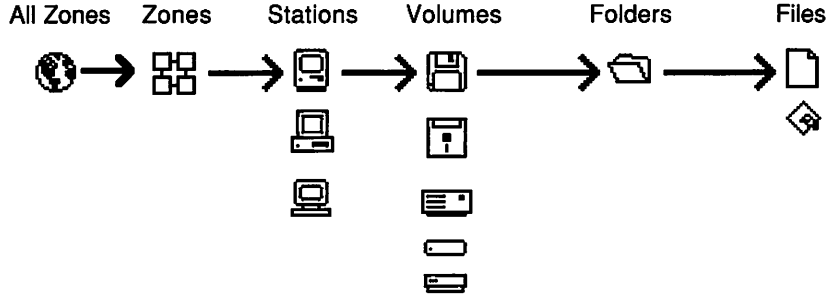
The TOPS desk accessory uses several icons:

	All Zones	All the zones on the internetwork
	Zone	Your zone in the internetwork.
	Mac Station	A Mac station on the network
	PC Station	A PC station on the network
	UNIX File Server	A UNIX file server on the network

	IBM Hard Disk Volume*	A volume published from a PC hard disk
	IBM Floppy Volume*	A volume published from an PC floppy drive
	Mac Floppy Volume*	A volume published from a Mac floppy drive
	Mac Hard Disk Volume*	A volume published from a Mac hard disk
	UNIX Volume*	A volume published from a UNIX server
	Folder*	A Mac, MS-DOS, or UNIX subdirectory
	Data File	An PC or Mac data file
	Application File	A Macintosh application
	Mounted or Published	A volume or subdirectory that has been mounted or published

* When a volume's icon is highlighted in black, some of the its contents have been mounted or published. When a folder's icon is highlighted in grey, its "parent" volume has been mounted or published.

The icons have the following hierarchical relationship:



Working on a LAN

Using your Mac on a LAN requires only a small change in how you use your computer. There are three main ways that you can use TOPS.

As an Individual Workstation
You can install TOPS on your personal computer, but continue to use it as if you weren't part of the network. Although it's physically wired to other computers on the network, you are not "connected" with the other computers until you "sign on" to the network.

As a Server
After installing TOPS and signing on to the network, you can decide what information on your local disk drives you want to publish (make available) on the network, as well as how other people may access it. When information is published, other computer stations on the network may use it.

As a Client
After installing TOPS and signing on to the network, you can use any information that other computer stations have published and request access to that information when you mount a remote volume.

These examples of network use are not mutually exclusive. You are able, in fact, to use TOPS as a server and a client simultaneously — without disrupting the activities of other network users.

When your computer functions as a server on the network, you may want to make some changes in the way you organize and name your files — especially if your LAN combines Macs and PCs. Chapter 7, "Getting Organized" contains a detailed discussion of these issues.

Chapter

2

Getting Started

Copying TOPS Software

The very first thing you should do is to make a backup copy of the TOPS disks which come with your TOPS package. These disks are not copy protected; you may make as many copies of the disks as you like. However, it is very important to write the serial number of the original disk on each copy that you make. TOPS is encoded with a unique serial number, kept in a file called "TOPS Key". Each Mac on the network must have a copy of TOPS software with a different serial number.

When you sign on to the network, TOPS will check to see that there is no other station on the network with the same serial number. If there is, you will be asked to log on again with a different copy of TOPS.

You can use the TOPS desk accessory to find out who else is using your serial number. As you can see, every time you install TOPS software on a new disk, it is a good idea to write the serial number or your name on that disk.

Incidentally, the TOPS Key file is locked to reduce the chance of accidentally deleting the file.

Connecting to the TOPS Network

Before you can run TOPS, you must be connected to the AppleTalk network. To do this, you need AppleTalk network cables (such as TOPS TeleConnectors). See the cable's instruction manual for instructions.

Also, AppleTalk must be active. To activate AppleTalk, click the "Active" button in the Chooser desk accessory.

Installing TOPS

Installing TOPS on the Macintosh is easy. You can use the TOPS Installer, or you can do the installation yourself.

When you run the TOPS Installer, you see a window which tells you about your current copy of TOPS and about the copy on the TOPS Disk 1. Select the disk on which you want to install, click Install, and the Installer program does the rest. In order to run the new software, you must restart your Macintosh after running TOPS Installer (a dialog box at the end of the installation lets you do this).

If you want to do the installation yourself, follow these two simple steps:

Step 1 Copy all the TOPS files from the TOPS Disk1 into your System folder.

Boot your system as you normally do, then insert the copy of the TOPS Disk 1 in one of the drives on your Macintosh. While you are in the Finder, drag the TOPS files (called SoftTalk, TOPS, TOPS Key, TOPS DA, TOPS Help, TOPS Prep, InterBase, PC Icon, UNIX Icon and Start TOPS) into the System folder on your boot disk. Eject the copy of the TOPS Disk 1.

Step 2 Use the Font/DA Mover to copy the TOPS desk accessory into your System file.

Run the Font/DA Mover and select the desk accessory button. Click the Open button on the right side of the window. In the list of files, select the TOPS DA file in the System folder. (If you do not see the TOPS DA file, click the Cancel button and then hold down the Option key and click the Open button again.)

Click the Open button in this window. Next, click the "<<Copy<<" button to copy the desk accessory. This adds the TOPS desk accessory to your System file. When the cursor turns back to an arrow, click the Quit button. Although you have added the TOPS DA to your system file, you still need to keep the "TOPS DA" file in your system folder.

Step 3. In order to run the new software, you must restart your Macintosh after performing this installation.

TOPS Spool and TOPS Translators

See Chapters 9 and 10 for information on information on installing TOPS Spool and TOPS Translators.

Space-saving Options

The above procedure changes the System folder on your boot disk so that TOPS is automatically loaded into memory whenever you start your Mac. For this reason, the TOPS desk accessory and the TOPS program files should be installed in the System folder of each disk you will use as a startup system disk.

If you prefer not to install TOPS on your startup disk, it is still possible to load TOPS by inserting a disk with the full set of TOPS files. Open the System folder and double-click on the Start TOPS program icon.

If you work with a hard disk but boot from a floppy, it is simplest to install TOPS on both disks. In this case, however, you can save disk space by removing some of the TOPS files from each disk.

For disks that are used only for booting up, you will need the files called "TOPS," "SoftTalk," "TOPS Key," and "TOPS Prep." The InterBase file should also be on the startup disk if you plan to make information on your machine available to IBM PCs. To save space, however, you can remove the files called "TOPS Help," "TOPS DA," and "Start TOPS" by dragging their icons to the trash.

Likewise, if you have a work disk that will never be used as a boot disk, e.g, a hard disk which is booted from a floppy, you can remove all files except "TOPS DA" from the system folder. All other files are only needed at boot time. From that time on, they remain memory-resident until you shut down your computer.

Once you are familiar with TOPS, you can remove the "TOPS Help" file from your system folder. Doing this eliminates the tutorial help windows in the TOPS desk accessory. You can still get the item-specific help (such as listing directory information from a remote volume).

Updating TOPS

Updating TOPS is just as easy as installing it. If you use the TOPS Installer to do the update, it will handle all the details for you automatically. If you want to do the update yourself, simply copy all the TOPS files from the update disk to the disks from which you use TOPS.

If you are updating TOPS from a disk that is not an update disk (such as from a friend's TOPS disk), you must *not* copy over the TOPS Key file. Since the TOPS Key file is what identifies you to the network, you do not

want to copy the other person's TOPS Key file. This is another reason why it is important to keep a backup copy of your TOPS diskette.

Chapter

3

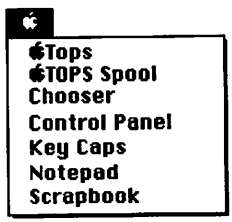
Getting Familiar

The TOPS desk accessory is your primary interface with the network. Through its window, you can:

- Find out what is available to you on the network
- Make your volumes available to others on the network
- Access volumes located on other computers
- Copy files from other volumes

Opening the Desk Accessory

Once TOPS has been installed, you can open the TOPS desk accessory by selecting TOPS from the desk accessory menu.

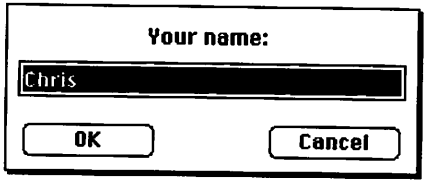


If TOPS does not appear in this menu, then it has not been installed on your current system disk. You cannot use TOPS until it has been installed, so refer back to Chapter 2 and try again.

By the way, if you want to run your computer without TOPS being installed, simply press the Option key while your machine is booting. A dialog box will appear asking whether you want to install TOPS.

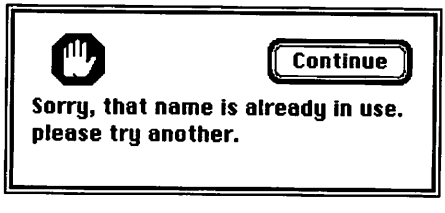
Signing On

The first time you sign on to the network, you need to assign a name for your station. TOPS will prompt you with the following dialog box:



You may make your station name up to 31 characters long. This might be your own name (such as "Chris Stein"), the name of your computer or hard disk (such as "Room 72A Mac SE"), or a job description such as "Accounting" or "Manufacturing."

Once you have entered the name and clicked "OK", TOPS checks the network to make sure no one else has the same station name. If TOPS detects the same name on the network, you are asked to enter a different name:



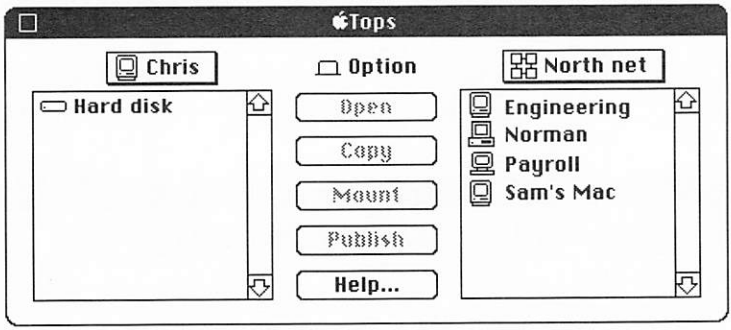
You should have no problem selecting an appropriate name for your station. Once you have selected a unique name, the TOPS desk accessory dialog box will appear and you will have full access to the network.

Changing Your Name

After you have signed on the first time, TOPS remembers your name (in the TOPS Prep file) and automatically signs you on each time you turn on your Macintosh. You will not be prompted for the name any more unless someone else uses that name. If you want to change your name, open the TOPS desk accessory, select your name, hold down the Option key, and click the Open button. You will see the same dialog box you saw the first time you specified your name.

Elements of the TOPS Desk Accessory

The TOPS desk accessory dialog box is divided into three parts:



Your Station

The left side of the desk accessory displays the volumes (floppy disks, RAM disks, and hard disks) located on your computer. Chapter 4 explains how you can make these volumes available to other people on the network. In the example shown above, "Chris" represents the station name given to your computer. On your own Mac, the station name you choose will appear in its place.

If you select one of the volumes listed in this side of the TOPS desk accessory and click on the Open button (or double-click on the volume), your station name will be replaced by that volume name. The list of volumes will be replaced by a list of folders and/or files in that volume.

You may repeat this process to work your way through the file structure of the Mac. Click on the title above the box to move back up through the folders.

Other Stations

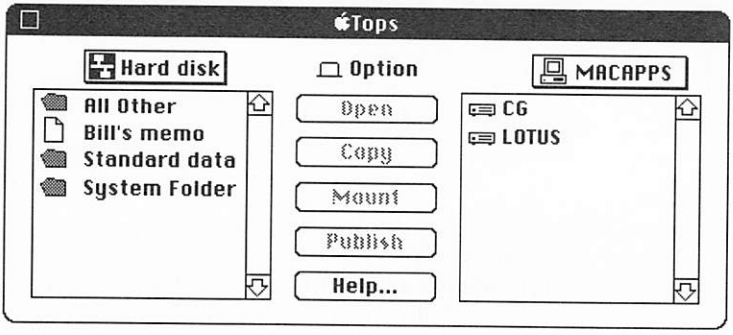
The other computers that are active on the network are listed on the right of the screen. If there is only one network, this list is labelled "File Servers." If you are on a network with bridges or gateways (that is, networks that are connected together), instead of "File Servers", you will see the name of the zone that you are in. A *zone* is a group of networks that are linked to the other networks. If you want to find a server that is not in your zone, click on the name of your zone at the top of the list and hold down the mouse button; the next level up is labelled "Zones." Move the mouse to that name and release the button; the list changes to a list of all the zones on the network.

When you select a server and click it open, the list changes to the volumes on that server that are available to you. Chapter 5 explains how you can access these remote volumes.

Commands

The buttons are used with the selections shown on either side of the window. TOPS' commands are easy to use.

Open — Lists the contents of whatever you select, such as a server, a volume, or a subdirectory. The heading at the top of the window indicates what you are viewing. For example, if you were to open an IBM PC called "MACAPPS", it might look like this:

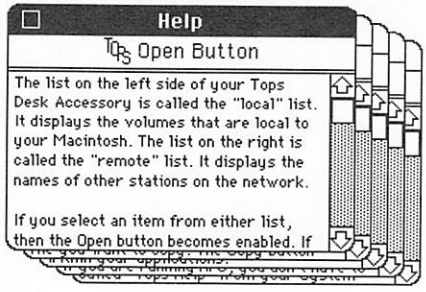


Copy — Enables you to copy individual files and applications from one computer to another.

Mount — Is used to "attach" the volumes located on remote computers to your own computer. This button changes to "Unmount" when you select mounted remote volumes.

Publish — Makes your local volumes available to others on the network. This button changes to "Unpublish" when you select published local volumes.

Help — Provides you with a detailed explanation of any feature that you select from the desk accessory. If you select an item and click the Help button, TOPS will give you help with that item. If you click the Help button without selecting anything, Help will describe each of the buttons.


Help
Open Button
The list on the left side of your Tops Desk Accessory is called the "local" list. It displays the volumes that are local to your Macintosh. The list on the right is called the "remote" list. It displays the names of other stations on the network.
If you select an item from either list, then the Open button becomes enabled. If

To close all the Help windows at once, click anywhere outside the help windows. To get less verbose help, hold down the Option key while you click the Help button.

Chapter

4

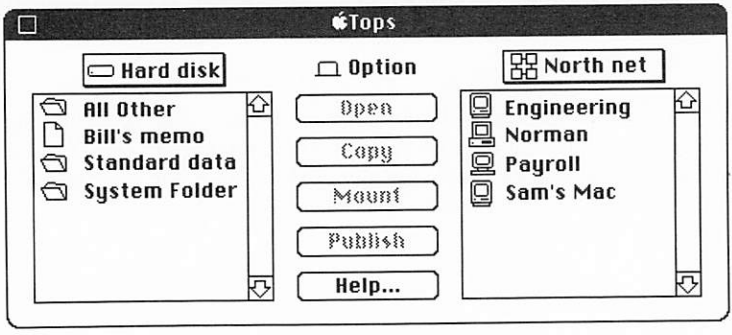
Server Activities

When others on the TOPS Network are accessing your files, your computer is being used as a server. Only you can determine whether or not other users may see your files. In this chapter, you will examine the ways in which you can use TOPS to make your resources available to the network — or take them off of the network.

Listing Contents of Your Volumes

By now you are familiar with some of TOPS' basic characteristics, and you know that the left side of the TOPS desk accessory provides information about your own files. These files are physically located in the disk drives attached to your computer, and the icon next to each name shows you whether the volume is a hard disk or a floppy.

To list the contents of one of your volumes, select the volume in the list and then the Open button. Alternatively, you can double-click on the name to open it.



When you open a volume, notice that the name of the volume replaces your station name, and the window now lists the contents of the volume. The icon to the left of each name tells you what you are looking at: a file, a folder, or an application.

If you are working with a Mac using the older Macintosh File System (MFS), your files and applications will all be listed, but they will not be grouped into folders the way they are on your desktop. This is because MFS is a flat filing system, not a hierarchical one. While your Mac's Finder can "see" folders and use them to keep your desktop organized, TOPS can't. As a result, folders only appear in the TOPS desk accessory when they represent real subdirectories created on an HFS Mac.

Most Macs use the newer Hierarchical File System (HFS), which allows you to group files and applications in folders, and you can place folders within folders. All of these folders are true subdirectories within TOPS. You can list the contents of a folder by selecting its name and then clicking Open, or by double clicking on the folder's name.

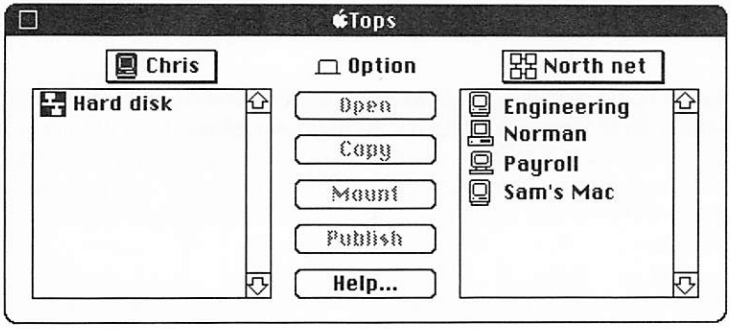
Once you've elected to look at the contents of a volume or a folder, the label over the window becomes a pull-down menu. Click on the label and notice that you can return to a higher level by selecting it from the menu.

To return to the view that only lists volumes, select your station name from the menu.

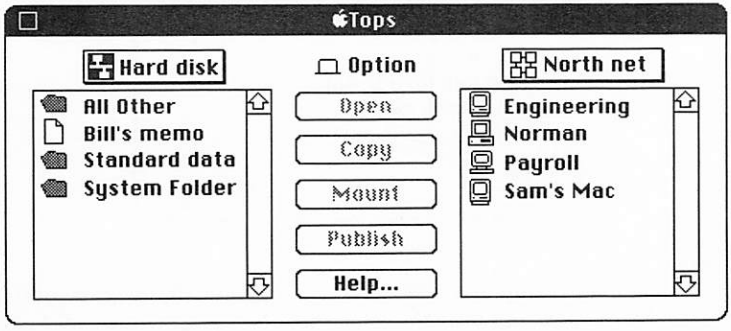
How to Publish a Volume

If you wish to let others on the network have access to your files, you do so by publishing the volume containing those files. When other stations ask for a list of your volumes, the list that appears on their screens will only show the volumes that are currently published. In fact, they will only see you as a server if you've published one or more volumes. You can publish the contents of a floppy disk, an HFS folder within a disk, a RAM disk, or an entire hard disk.

To publish, simply select a disk or a folder in the list, and then click the Publish button. Note that the disk or folder icon changes to the TOPS icon to indicate that the contents have been published. Also, the picture of the Mac changes to black, to indicated that at least one disk or folder attached to your machine is published:



If you publish at the disk level, you should be aware that everything on that disk will be available to others on the network, including any folders. When this is the case, the volume-level icon changes to the TOPS icon and folder icons turn grey. When you open a published volume and notice that the folders are grey, it means that they are already available on the network.



You can publish any folder, even if it is inside another folder. When you publish at the folder level, any files and folders within that folder will be available. In this instance, the icon representing the folder that you publish will change to the TOPS icon. Any folders inside of it will be highlighted in grey.

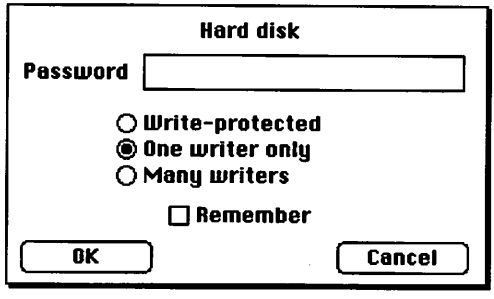
It is not possible to publish at the file level, only at the folder or volume level. If you want to publish an individual file on an HFS system, place it in an otherwise empty folder (or on a blank floppy disk) and publish that.

Generally, you should avoid publishing floppy disks because when a floppy is accessed by another station, your local activities will slow down. If you do publish a floppy disk, however, it is best to leave it in the drive until you unpublish it. If you try to eject a floppy disk that others are using, you will get a warning. If you continue with the ejection, the floppy is unpublished, which might affect other users.

Restricting Access

There may be occasions when your work must be shared with one or two key people on the network, but kept from all the others. Other times, you might need your work to be seen by others on the network, but not changed by them. In cases like these, you can publish your work but restrict the access. The easiest way to keep files and applications private is to not publish them.

To restrict access when you publish a volume, simply hold down the Option key (or use the Option button on the desk accessory) before you click Publish. A dialog box will appear that enables you to specify a password and choose among three access modes: write-protected, one writer only, or many writers.



Passwords

Passwords are always optional. If you type in a password, no one will be able to open or mount your volume unless they know the password. Leave the password box blank, and anyone on the network can access your published volume.

Write-Protected

Write-protected is the same as "read only". Other people on the network will be able to read files on your volume, but they will not be able to make any changes.

One Writer Only

When a volume is published in this mode, the owner of the disk and the first user to access the volume can write to it. Subsequent users can read the data, but not write to it. This will be indicated to them by a padlock icon in the upper left corner of their Finders' desktop window.

Many Writers

This access mode places no restrictions on the number of people who can read or write to your volume. However, only one person can write to a particular file at a time. Some programs allow more than one person to write to a file at a time; files that are shared in this fashion must be kept on disks that are published for many writers.

The Macintosh file system prevents those files that cannot be opened by may people at once from being opened by two or more people, even if they are in a volume published as "many writers." "Many writers" is also useful if many different files need to be opened and written to by different TOPS users.

TOPS' default choice is "one writer only" with no password. This is the way your volumes will be published if you do not use the Option key when you publish.

Auto-publishing a Volume

TOPS also lets you publish specific volumes automatically when you boot your Macintosh. The dialog box you get when you hold down the Option key as you click the Publish button includes a check box labeled "Remember". If you check this, TOPS remembers the name, password, and other options that you specify in the box. This information is stored in the file called TOPS Prep in your System folder. Whenever you boot your system, all volumes you have selected in this fashion will be automatically published without using the TOPS desk accessory, even if you have renamed the volume.

You can auto-publish up to 12 volumes. If you ever want TOPS to not auto-publish a volume, simply uncheck the "Remember" button in the dialog box.

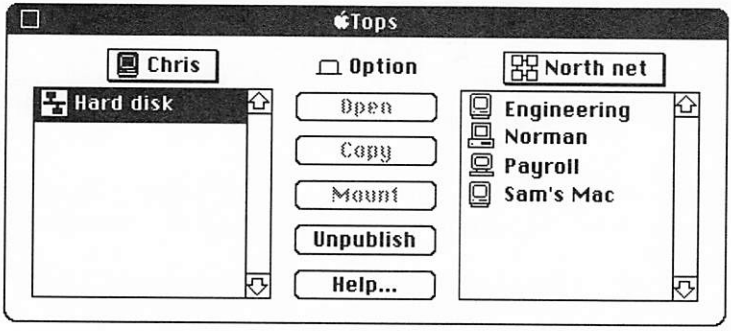
If TOPS has a problem auto-publishing a volume, it will give you a dialog box with two choices: Continue and Forget. Click Continue to proceed without publishing the volume. You can use the TOPS desk accessory to publish it later, as shown below. Use the Forget button to indicate that you do not want TOPS to try to auto-publish this volume in the future.

TOPS even lets you quickly re-publish any volumes in your auto-publish list that have been unpublished: simply hold down the Option key when you open the TOPS desk accessory. This will not affect the volumes already published, but will attempt to auto-publish any volumes in your auto-publish list that are not published for any reason.

How to Unpublish a Volume

Unpublishing a volume removes its name from the network. A volume can be unpublished in a similar fashion to the method you used to publish it: open the TOPS desk accessory, click on the volume name and then click Unpublish.

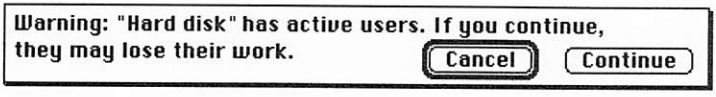
When you select a published disk or folder, the Publish button changes to Unpublish:



Clicking the Unpublish button will unpublish the selected volume.

When you select a volume represented by a blackened disk (meaning that some of the folders in that volume have been published, but the volume itself isn't) and click Unpublish, all of the published folders within that volume are unpublished at once.

If you attempt to eject or unpublish a disk, or if you select the Shut Down option from your Finder's "Special" menu, you will receive a warning message if any of your published volumes have active clients:

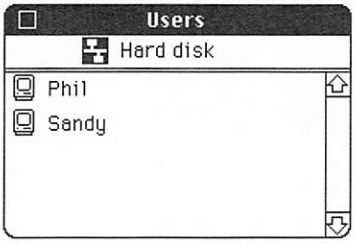


Also, all your clients get a message on their screens indicating that you are attempting to shut down.

(If you are using a non-Apple hard disk with its own "log off" or "shut down" utility, however, you may not be warned that your disk has active clients.) If you shut down your Mac or eject the disk anyhow, you can cause your clients to lose their work.

Listing Your Clients

To get a list of the clients using a volume, open the TOPS desk accessory, select the volume, and click Help. A series of windows will appear, describing the volume's contents. The last window will give you a complete list of that volume's users. This feature applies to any volume, whether it is a folder, a floppy, or a hard disk.



Also, if you choose your station name and click the Help button, you will get a list of users for each of your published volumes.

Unpublishing an Auto-Published Volume

If you have auto-published a volume and want to prevent it from being auto-published each time you turn on your Mac, you want to uncheck the Remember checkbox in the Publish dialog box. To do this, select the published disk or folder, hold down the Option key, and click the Unpublish button. In the dialog box, uncheck Remember.

If you simply unpublish the volume without unchecking Remember, TOPS will continue to autopublish it in the future.

Chapter

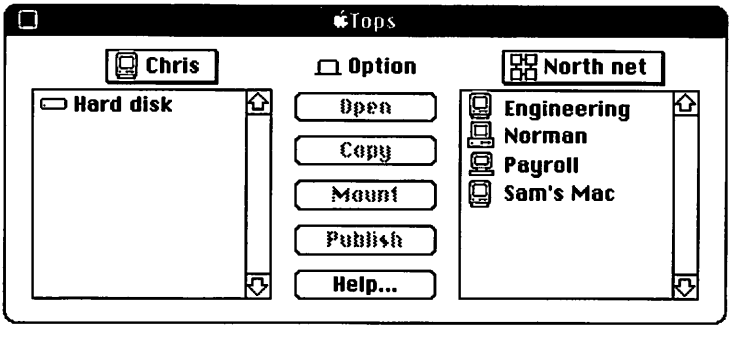
5

Client Activities

When you use resources that are located on someone else's computer, you are a "client". In this chapter, you will identify the ways you can become a client on the TOPS Network.

Listing Network Stations

The right side of the TOPS desk accessory provides you with information about the resources that are available to you from the other computers on the network.



This list shows the stations on the network (or in your zone) that have become file servers by publishing volumes for use by others. The heading (which is either "File Servers" or the name of your zone) indicates which portion of the network you are viewing.

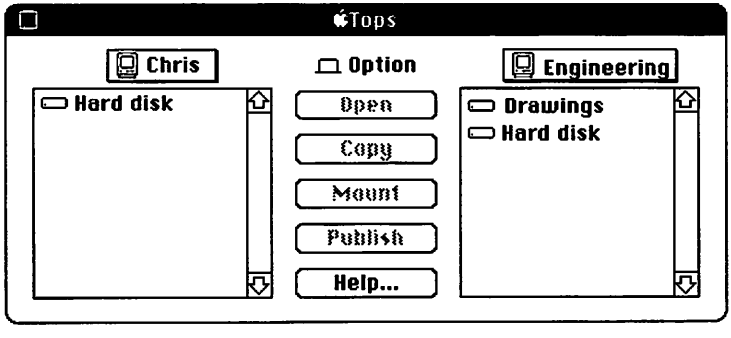
The icon preceding each station name tells you the type of computer at that station. The icon for a Mac looks like a Mac, while PCs are represented by icons that resemble PCs. Stations that are UNIX file servers (such as "Payroll" above) are represented by a workstation icon.

If you suspect that a new server may have signed onto the network that does not yet appear in the desk accessory, you can update the server list by double clicking on "File Servers" or your zone name.

Listing Volumes Published by a Station

You can survey a list of another station's published volumes in much the same way that you reviewed the contents of your own volumes. Just select the station and click the Open button or double-click the station name.

Open one of the station names in your TOPS desk accessory. The right window now displays a list of volumes published by the station you selected. The volume list might look something like this:



Note that the list's label has been replaced by the name of the station you selected. The icon next to it reminds you that you are viewing the contents of a station.

The icon to the left of each volume indicates whether the volume has been published by an IBM, a Mac, or UNIX server, from a floppy disk or a hard disk.

You have now descended one level deeper in viewing information on the network. The label above this window becomes a pull down menu. Click and hold the pointer on the station name above the window and you will notice that the levels above the current one appear. You can move to the next level up in the hierarchy by moving the mouse down in this list and releasing the button.

Listing the Contents of a Published Volume

To list the contents of a published volume (which can be either a disk or a folder), select the volume name and click Open. The list displays the files and/or folders contained in the volume you have selected. The icons to the left of the listings show you whether the item is a file, application, or a

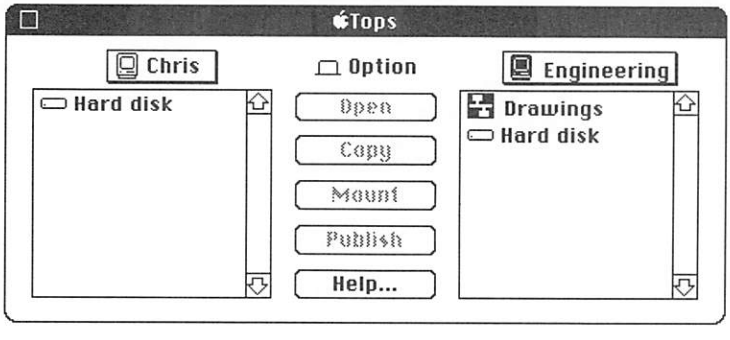
folder. If no folder icons are displayed, you have reached the deepest viewing level of the selected volume.

How to Mount a Volume

Of course, you haven't installed a local area network because you wanted to look at lists of names. You installed it in order to actually work with files and data bases located on someone else's computer. With TOPS, all you have to do to access the files on a volume is select the volume and click the Mount button. If the volume you've selected requires a password, a dialog box will open and ask you to enter it.

The characters you type in this box are not shown on the screen. Instead, a graphic character is shown for each letter you type so that someone behind you cannot see your password.

Once a volume or folder has been mounted, its original icon will be replaced by the TOPS network icon. The volume's "parent" icons will be highlighted in black.

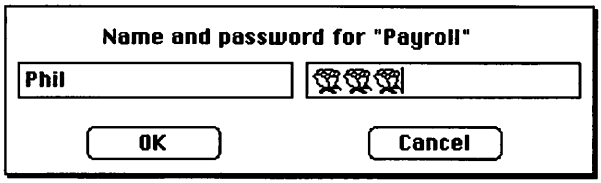


You can mount up to six volumes or folders at a time.

UNIX Volumes

Because TOPS fully respects all UNIX permissions and restrictions for file and directory access, mounting a volume that is on a UNIX file server running TOPS/UNIX is slightly different. Before you mount such a volume, you must have an account on that workstation or server. To get an account, you must talk to that computer's owner or system administator.

When you have an account on a UNIX system, you get a user name and a password. When you first open a UNIX server, TOPS prompts you for your user name and password:

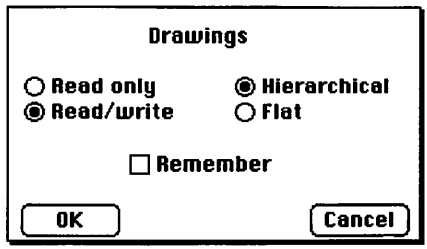


Type in your name and your password (a graphic character is shown for each letter you type so that someone behind you cannot see your password), then press OK.

Mounting with Limited Access

There may be times when you want to access someone else's work, but you want to be sure that you don't accidentally alter it. In such instances, you can choose to mount the volume with limited access.

To mount a volume with limited access, press the Option key while you click the Mount button. The following dialog box appears:



Of course, your access options are still restricted by the mode in which the volume has been published. For example, if a volume is published "write-protected", you cannot change this status. Access options that are not available to you are shown in grey.

This dialog box also gives HFS Macs the option of mounting the volume "flat" rather than hierarchically. This option will enable HFS Macs to use older software applications that were written only for MFS Macs. Many of these applications aren't compatible with HFS Macs, but they will work on a "flat" volume. Mounting a volume as flat will also prevent you from accessing any folders within the volume you have mounted.

Auto-mounting a Volume

The Remember button in the Option-Mount dialog box lets you tell TOPS to automatically mount this volume every time you boot your Macintosh. This is very convenient for volumes which you use often. After selecting

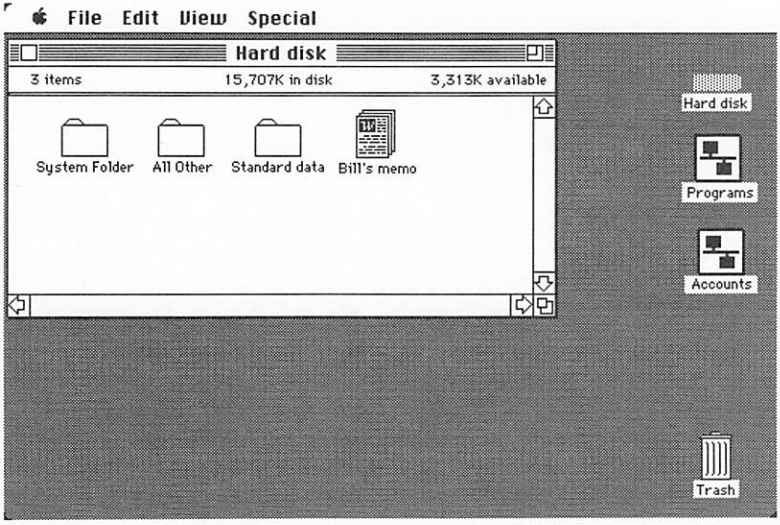
the Remember button, TOPS will automatically mount the volume each time you boot your Mac.

If TOPS has a problem auto-mounting a volume, it will give you a dialog box with three choices: Continue, Try Again, and Forget. Click the Try Again button if you think that the volume is really on the network but may have been momentarily unavailable. Click Continue to proceed without mounting the volume. You can use the TOPS desk accessory to mount it later, as shown below. Use the Forget button to indicate that you do not want TOPS to try to auto-mount this volume in the future (such as a folder that you know has been erased).

TOPS even lets you quickly re-mount any volumes in your auto-mount list that are not mounted: simply hold down the Option key when you open the TOPS desk accessory. This will not affect the volumes already mounted, but will attempt to auto-mount any volumes in your auto-mount list that are not mounted for any reason.

Opening a Mounted Volume

Every volume or folder you have mounted will appear as an icon on your desktop as soon as the Finder is active again.



These volumes also appear as drives in the Open and Save As... boxes for Macintosh applications. You can open the volume from its icon the same way you would open a local drive.

Although the DeskTop file is usually invisible because the Finder doesn't display its icon, the Finder requires a DeskTop file on every volume. If

there is no DeskTop file, the Finder will try to create one. However, the creation will fail if the disk is write protected. In this case, the Finder will give the message, "Couldn't create the DeskTop file. Unlock the disk?" and will eject the disk.

One way to access such a volume is to "initialize" it. Publish the volume in read/write mode just once, mount it from a remote Mac, and let the remote Finder create the DeskTop file. Then re-publish it in write-protected mode. From then on, everyone's Finder will be happy. Alternatively, you can enter an application and then mount and unmount the volume without ever returning to the Finder.

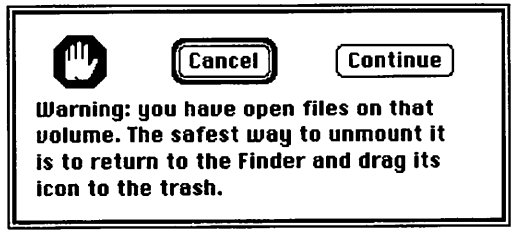
If you are on a system with both Macs and PCs, remember that the Finder cannot open a PC document on a PC disk when you double-click on it (it can, however, open a Macintosh document that is stored on a PC disk). You can, however, open a PC file from within an application. For example, you can work on a Lotus 1-2-3 spreadsheet by opening it from within Microsoft Excel. If you attempt to open the document by double-clicking on its icons in the Finder, your Mac will give you a dialog box saying that an application cannot be found to open the document.

How to Unmount Volumes

Once you are finished using a volume, the easiest way to unmount it is to simply drag its disk icon to the trash can. This is the same procedure you would use to remove a disk inserted into your Mac. Note that the files are not deleted, they simply become unavailable to you. This is also the best way to unmount, since it ensures that you have saved and closed the files you have worked on.

You may also unmount from within the TOPS desk accessory. Open the TOPS desk accessory and, in the right window, locate the volume you wish to unmount. Click on its name and then click on the Unmount button. (The Mount button changes to Unmount when you select an already-mounted volume.)

It is possible for you to unmount a volume from the desk accessory even though your Mac still has files open within that volume. When this is the case, you will receive the following message:


Cancel
Continue
Warning: you have open files on that volume. The safest way to unmount it is to return to the Finder and drag its icon to the trash.

If you continue with your unmount command rather than returning to the Finder, you risk losing any changes you have made to the file. You may even cause a system failure if you unmount a volume with an open application program. If you see this warning box, it is likely that you really do not want to unmount the volume until you return to the Finder.

To save time, you can unmount all of a volume's folders at once by simply selecting the volume name and clicking Unmount. You can unmount all of the volumes within a server in the same way: Just select the server name and click Unmount. You can even unmount all of the volumes you have mounted from all of the servers by selecting the Zone icon and clicking Unmount.

You can get a list of all your mounted volumes by selecting a blackened icon and clicking Help.

Chapter

6

TOPS Copy Operations

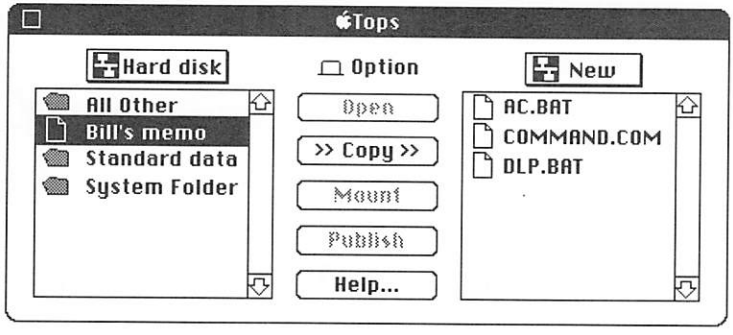
If you wish to copy a remote file to one of your local disks, or one of your files to a remote disk, you may do so in one of three ways:

- If you are in the Finder, you may copy a file to or from a mounted volume by dragging its icon from the desktop window to another volume's or disk's icon. This is exactly the same procedure used to copy files between your local drives, for example, from your hard disk to a floppy disk.
- From within an application, you can copy an open file by using the "Save As" option under the "File" menu, and switching drives.
- TOPS provides TOPS Copy as a way to quickly copy files between your machine and another on the network: the copy option in the TOPS desk accessory. This is a short cut to mounting the volume and dragging the file from one volume to another. Copying is always done from an open volume or folder to another open volume or folder. If you are copying a file to a remote volume, that volume must be published with write access.

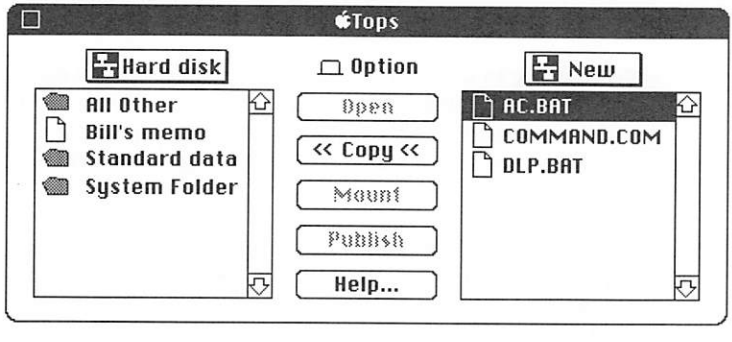
The Copy Button

To copy a file from your machine to a remote volume, first open the TOPS desk accessory in the usual way. Then open your copy's destination volume in the right list just as you have in earlier chapters. Select the file you want to copy in the left list.

Click on the Copy button and the file will be copied. The file name will appear among the remote volumes' other files.



You can copy a file from a remote station to your own in the same manner. For example:



When the Copy button is enabled, the arrows on either side of the word "Copy" point in the direction the selected file will travel.

>>Copy>> Indicates that you are copying the selected local file to the selected remote volume.

<<Copy<< Indicates that you are copying the selected remote file to the selected local volume.

Remember that the destination volume must be opened and a file selected before the copy button will be enabled.

If you attempt to copy a file to a volume that already has a file with the same name, a dialog box will appear asking if you want to replace the original file or rename the copy.

Copying Software Applications

The TOPS copy option is not exclusively for files. You can also copy applications from one station to another — regardless of machine type. Of course, your ability to use that application once you have copied it will

depend upon that application's form of copy protection and the vendor's license agreement.

Suppose you decided to copy MacDraw onto an IBM PC. MacDraw would then appear in the PC's directory. Since IBM computers don't know how to read MacDraw, this probably wouldn't be very useful to a PC user. However, any Mac on the network could access MacDraw if the PC's volume were published. Once the Mac user mounted the volume containing MacDraw, he or she could work on existing MacDraw pictures or even create new ones — and store them back on the PC's hard disk or any other available disk on the network.

Storing your Mac applications on a PC's hard disk turns the PC into a file server for the Mac. If your Mac doesn't have a hard disk, this method can be more convenient than using a floppy. It provides you with a lot more storage and it is also somewhat faster.

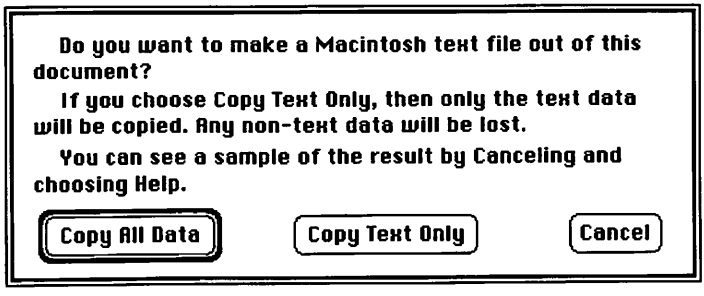
Even if your Mac has its own hard disk, copying your applications and files onto another computer can be a useful backup system. The other computer doesn't have to be a PC; it can be any station on the network.

Text Conversion

If you use the TOPS Copy button in its default mode, a file is copied completely intact. However, when an application on an IBM PC saves files to disk, it may save the text in such a way that it is hard to use the files with Mac word processors. This is called *text conversion.*

In most cases, you will want to use TOPS Translators for converting files. See Chapter 9 for more information on converting documents using TOPS Translators. In some case, however, simple conversion may be appropriate.

If you hold down the Option key while clicking Copy, a dialog box will appear asking whether you want the copy to be converted into a Macintosh text file.


Do you want to make a Macintosh text file out of this document?
If you choose Copy Text Only, then only the text data will be copied. Any non-text data will be lost.
You can see a sample of the result by Canceling and choosing Help.
Copy All Data
Copy Text Only
Cancel

You can use this text conversion to convert any PC text file to a Mac text file. Most PC word processors are capable of producing PC text files, but

they have to be converted to Mac text files for them to be useful on the Mac.

Viewing Remote Documents

You can use the TOPS desk accessory to get a glimpse of a file's contents. Select a document from either side of the TOPS desk accessory, and click the Help button. A series of windows will appear.

The first window provides general information about the document and the TOPS commands that can be used with it. Closing this window uncovers a second window that contains facts specific to the document — its size and the date it was created. Close this window and the third window will be revealed, giving you a sample of the document itself.

Often, the sample will consist partly or entirely of unrecognizable characters. Don't be alarmed by the hieroglyphics; they simply appear because the document is not a standard ASCII text file. Some documents — including those created by MacWrite — can only be read correctly within their applications. When you open them from within their applications, everything will look normal.

The heading at the top of the window will either be "Sample" or "Filtered Sample".

- "Sample" indicates the document is a standard ASCII text file. If you decide to Copy the file, the copy will contain all of the text, including the various commands (carriage returns, tabs, etc.) that are read by your computer but don't appear on your screen. When you close the desk accessory and open the copied document, it should appear in the exact same form as the original.

- "Filtered Sample" indicates that the document has some "unprintable" characters in it. These have been "Filtered" so that what you see is a cleaned version of the file. The file itself may or may not make sense, depending on whether or not it has any ASCII text in it. If it has ASCII, text will be clearly readable.

Chapter

7

Getting Organized

Organizing Your Disks and Files

When you are the only one using your computer, you can arrange your files and disks in whatever manner best suits your activities. The same is true when you are working on a network, but there are a few new factors to consider. For example, you may want to keep your personal directories under one structure, while maintaining another structure for the directories you regularly publish (make available on the network). Your organizational style will depend partly upon whether your Mac uses MFS or HFS.

File Naming Conventions

Restrictions and guidelines for file names vary considerably from one operating system to another. If all computers on your network use the same operating system, file naming conventions will not be an issue. However, if more than one operating system is involved, it is helpful if you use file names that will work with both operating systems.

In either of the following cases, keep in mind that a file or directory name that makes perfect sense to you may make other people on the network confused about the contents.

An All-Macintosh Network

If every computer on the network is a Macintosh, file naming conventions are not an issue. You can name a file anything you like and can rest assured that it will be accurately read and displayed by other Macintoshes on the network.

The TOPS desk accessory behaves like other Macintosh desk accessories in that only the first 14-16 characters of the file or folder name will be displayed in the lists. Knowing this, it is wise to keep your file names

short, or at least have the first 14 characters adequately describe the file or folder.

A Mixed Network

File and folder (directory) names for the folowing operating systems are different. The following chart shows the difference between the naming conventions in the operating systems.

DOS Names:

File and Directory	Application	Volume
•Up to 8 characters	•Up to 8 characters	•Up to 11 characters
•Optional 3 character extension	•Extension of .COM or .EXE	•No extension
•No blank spaces	•No blank spaces	•Blanks OK
•Can't use ":"	•Can't use ":"	•Can't use ":"

Macintosh Names:

File and Folder	Application	Volume
•Up to 31 characters	•Up to 31 characters	•Up to 27 characters
•Blank spaces OK	•Blank spaces OK	•Blanks OK
•Can't use ":"	•Can't use ":"	•Can't use ":"

Unix Names:

File and Directory	Application	Volume
•Up to 256 characters	•Up to 256 characters	•Up to 32 characters
•Blank spaces OK	•Blank spaces OK	•Can use "/"
•Can't use "/"	•Can't use "/"	•Blanks OK

You can see that when dissimilar computers are involved, some thought must be given to creating file, folder, directory, application, and volume names which will be readily acceptable to both operating systems.

Generally, any MS-DOS name is acceptable to the Mac. However, Mac names longer than 8 characters, or with embedded spaces, are not acceptable to MS-DOS. However, TOPS automatically translates Mac names to be compatible with DOS.

Here is an example of names that are common in the IBM environment and how they would appear on a Macintosh screen if they were published:

How MS-DOS names would be displayed:

Item	IBM Display	TOPS Window	Mac Finder
files	REPORTS.JAN	REPORTS.JAN	REPORTS.JAN
applications	WORD.COM	WORD.COM	WORD.COM
published vol	JAN REPORTS	JAN REPORTS	JAN REPORTS

Notice that the names appear the same in both environments. In comparison, here is how names generated by the Macintosh would appear on the IBM display screen if they were published:

How Mac names would be displayed:

Item	Mac Finder	TOPS Window	IBM display
files	Reports for '86	Reports for '8	REPORTS
applications	Latest Version	Latest Version	LATEST_V
published vol	Current Projects	Current Projec	CURRENT_

The TOPS window above shows the way your file names would appear in the desk accessory on your Mac. Notice that only the first 14 (or so) characters of the names appear. On a PC, names appear as shown under "IBM display". Spaces within file, folder, and application names are removed to conform to MS-DOS name requirements.

Some Mac names will not make sense when viewed on the IBM screen because of the truncation of the names. Keep this in mind when naming items which will be published on the network. If you leave out spaces and keep name lengths to eight characters, the IBM will "see" the names exactly as they exist on the Mac.

Chapter

8

Tips for Power Users

Short Cuts

Double Clicking
Double clicking on an item in the TOPS desk accessory always has the same effect as selecting it and clicking Open.

Updating Desk Accessory Lists
Double clicking the heading over a list in the TOPS desk accessory will also update the information in the list. For example, if a new file server signs onto the network while you are using the TOPS desk accessory, you can double click on the heading "File Servers" and the new server's name will appear.

Alternate "Option" Keys
Depressing the Command key on the key board is the same as depressing the Option key when you wish to take advantage of TOPS' options. You can also click on the Option button in the center of the top of the desk accessory window instead of holding down the Option key.

Technical Miscellany

Required Finder Version
TOPS requires Finder versions 5.3 or greater. If you are using System File 3.2, you should upgrade to a more recent version. Using the same version of the system and Finder on all stations on the network is highly recommended.

Switcher
The Start TOPS program cannot be run from within the Switcher. However, all other of TOPS actions work just fine in the Switcher. If you are running the Switcher and each program has just enough memory to run, the TOPS desk accessory is likely to not have enough memory to run.

Again, there is no problem with accessing mounted drives, only with opening the TOPS desk accessory.

DeskTop Files

The present version of the Macintosh Finder was not designed for multi-user access. This can cause some confusion when more than one user tries to access the same volume, because only one Finder at a time can write to the DeskTop file. When two users try to access a volume, the first user's Finder gets write access to the DeskTop File. The second user has read-only access, but his or her Mac gives no indication that this is the case. Consequently, the second user will have the illusion of writing to the DeskTop, but in fact, no changes (changing comments in the Get Info box of a file or rearranging a window, for example) can be recorded. This confusion can be avoided by publishing a volume "one writer only" over TOPS. Then users will see a padlock icon in the upper left corner of the desktop if someone else is writing to the file.

Because the Finder will try to create a Desktop file the first time a volume is mounted and accessed with the Finder, the volume cannot be published write-protected. Once the Desktop file is created, the volume can be published write-protected, but the same restrictions discussed above will apply.

Generic Icons

If you copy a file to a remote server while that server is running the Finder (i.e., it has its desktop opened) the copy may appear with a generic icon rather than its correct icon. This is because a generic file is created before a real icon is given. An open Finder will recognize the new file, but it won't notice any other information (like the kind of file it is, and its icon) until the directory window is reopened on an HFS Mac, or the Finder restarts after quitting an application or rebooting on an MFS Mac.

Unnamed Folders on MFS Macs

Occasionally, unnamed folders may appear on the screen of an MFS Mac. This happens when two users — one HFS and the other MFS — are operating on the same volume. If the HFS user adds a file into the volume, the file may appear inside an unnamed folder on the MFS Mac. This problem is easily solved: simply move the files out of the unnamed folder and throw the folder away. Or give the folder a name on the MFS Mac.

Renaming Volumes

Don't rename a published volume. This can cause unpredictable results with some programs.

Dedicated Servers

Since TOPS provides distributed file service, no dedicated server is required. If you wish to dedicate a Mac to file service, however, it is best not to leave its Finder open. Instead, you should leave the TOPS desk accessory open. This will prevent any Finder conflicts from occurring.

File and Record Locking
TOPS is compatible with Apple's latest specifications for byte-range locking. TOPS is compatible with all known multi-user AFP applications.

Deactivating TOPS and InterBase
TOPS software remains memory resident and is automatically installed whenever you start up your computer. TOPS cannot be deactivated after you have booted.

You can prevent TOPS from being activated at boot time by holding down the Option key. Then, a dialog box appears, asking if you want to install TOPS.

Viewing Invisible Files
Files that are normally invisible — the DeskTop file or various copy protection files, for example — will be listed in your TOPS desk accessory window if you hold down the Option key while you open a volume.

TOPS Network Activity Light
With TOPS, all network activity takes place in the background. If you are using a computer with an attached published hard disk, however, you may notice a small delay in your program or keyboard entry when others access your hard drive. Whether you are on an all-Mac or a Mac-PC network, you can tell if a slow down is due to network traffic by checking the "network activity light" in the upper left corner of the your Mac's screen. This is a tiny (one-pixel sized) light that blinks on and off when your Mac is "networking".

If your Mac ever seems to be "stuck" while the network activity light is blinking, then you are connected to a server which has become unable to respond. If the server's case is really critical (someone has tripped over the power cord, for example), your Mac will stop trying within 30 seconds. You will see a dialog box that TOPS is trying to connect to the server. It will try until you click the "Give Up" button in the dialog box. If you were saving a file when the server became unavailable, your application will generally let you try to save to another disk.

This dialog box has two buttons: "Keep Trying" and "Give Up." The dialog will stay up forever until you click one of these buttons. However, the server will give up on the connection if it is not re-established in about 5 minutes (this is necessary to allow others to access the volume).

Files on the TOPS Distribution Disk
The following table shows the purposes for the files on the TOPS distribution disks:

Interbase	Translates file names to be acceptable to DOS.
PC Icon	Provides a Finder icon for PC documents.

SoftTalk	Part of the internals for the TOPS software.
Start TOPS	Allows you to start TOPS if it was not started when you booted your Macintosh.
TOPS	The main part of the TOPS software.
TOPS DA	The software to control the TOPS desk accessory. Also has the desk accessory for copying into the System file.
TOPS Help	The help text for the TOPS desk accessory. Removing this file still allows non-tutorial Help to work.
TOPS Key	Your personal identification. This file holds your serial number.
TOPS Prep	Holds your network name and information about automounting and autopublishing.
Unix Icon	Provides a Finder icon for UNIX documents.

Chapter

9

TOPS Translators

Introduction

TOPS Translators lets you translate between popular MS-DOS and Macintosh file formats in either direction. It is used in conjunction with TOPS.

This capability, combined with TOPS' ability to transfer data and text files between Macintoshes and IBM PCs or compatibles, makes it possible to work on the same word processing document, spreadsheet, data base or other file using both Macintoshes and IBM PCs. You can also use TOPS to store these files on UNIX file servers.

Suppose, for example, you have created a word processing document using MultiMate on a PC and want to use it in MacWrite. To do this, first use TOPS to make the document accessible to your Macintosh. Then use TOPS Translators to create a MacWrite translation of that document. The newly created document will contain the text and formatting (such as margins, paragraph breaks, underlining, superscripts, and so on) of the original MultiMate document. You can now use the new file in MacWrite or any Macintosh software capable of reading the MacWrite format, such as Microsoft Word or PageMaker.

Next, suppose that you have edited this MacWrite document and want to use it again in MultiMate. Simply run TOPS Translators again and create a MultiMate translation of the edited document, then use TOPS to make the new MultiMate document accessible to your PC. You can now use the new MultiMate document as you would use any MultiMate document.

Source and destination files can reside on either your IBM PC volumes or Macintosh volumes. There is a wide variety of files which you can translate. For instance, you may want to use a Lotus 1-2-3 spreadsheet in Jazz on the Macintosh.

TOPS Translators will work with most Macintosh products such as Switcher, Excel, MacWrite, and PageMaker. It will also work with other programs that can read and write files compatible with these programs.

The example in this chapter shows you how to convert a MultiMate document into a MacWrite document. The procedure is almost identical for translating documents between any two other formats.

Installing TOPS Translators

Before you use TOPS Translators, you have to install it. The first thing you should do, if you have not done so already, is make a copy of the TOPS Disk 2 (it is not copy protected). Use this copy, not the master diskette, when you use TOPS Translators. After you have copied the TOPS Translators files, store the original diskette in a safe place. It will serve as a backup for the copy you made. It will also be required for TOPS Translators upgrades.

If you are using a hard disk, you should copy the files from the TOPS Disk 2 to your hard disk. If you are using only diskettes, use your backup copy of TOPS Translators. This copy does not have the system files on it. In addition, be sure that the TOPS Disk 2 is not locked.

The TOPS Disk 2 contains the TOPS Translators application file and two Settings documents. It also contains two folders of sample files, one called "Macintosh Samples" and the other called "'Foreign' Samples."

Running TOPS Translators

To start TOPS Translators, double-click the TOPS Translators application icon. The general method you use to convert documents is:

1. Specify the direction of your translation (that is, from Macintosh format to IBM PC format or vice versa) with the Set Translators screen.

2. Specify the format of your original and destination files (such as WordStar or MacWrite).

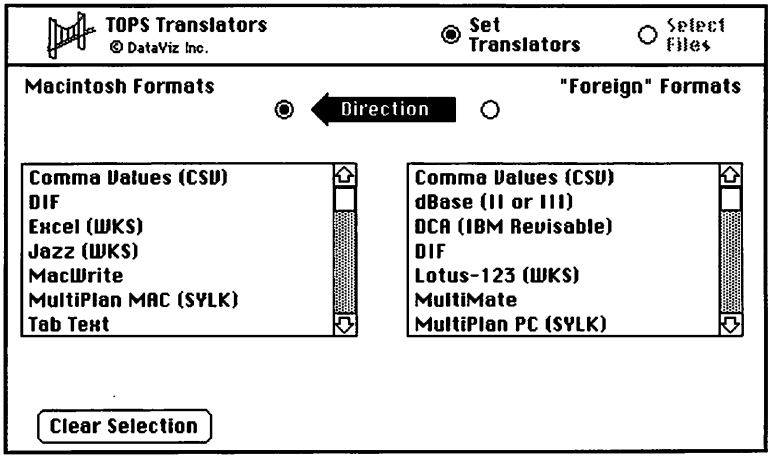
3. In the Select Files screen, select the name of the original file.

4. Select the disk and folder where you want the file to be created.

5. Press the Convert button and name the destination file.

Set Translators Screen

When you first run TOPS Translators, the Set Translators screen appears. You use the Set Translators screen to specify a file's original format and the format you want it translated into.



This screen appears when you first run TOPS Translators; you can also get to it by clicking the Set Translators button in the upper right corner of the screen.

The Translation Direction arrow tells TOPS Translators whether you want to convert from an IBM PC file to a Macintosh document, or from a Macintosh document to an IBM PC file.

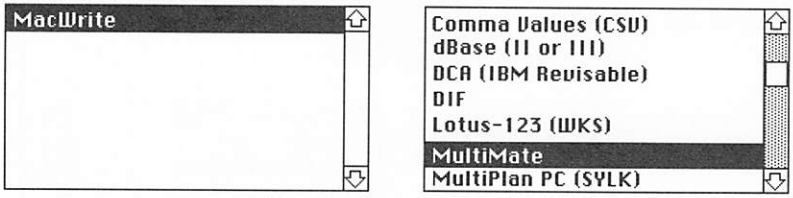
If you want to translate a file from an MS-DOS format into a Macintosh format, click the arrow (or the buttons on either side of it) to make it point from the "Foreign" box on the right towards the Macintosh box on the left. To translate a Macintosh file into an MS-DOS file, make the arrow point to the right.

The Set Translators screen contains two scroll boxes. The box on the left (labeled "Macintosh Formats") lists the Macintosh formats that TOPS Translators supports. The box on the right (labeled "'Foreign' Formats") lists the MS-DOS formats that TOPS Translators supports. Scroll in the boxes to find the formats you want to convert from and to.

You should first select the format of your source file. This causes TOPS Translators to display your conversion options. For instance, if you are converting from an IBM PC MultiMate file, you can only convert to a Macintosh MacWrite file.

Click the arrow to make it point from the "Foreign" box to the "Macintosh" box.

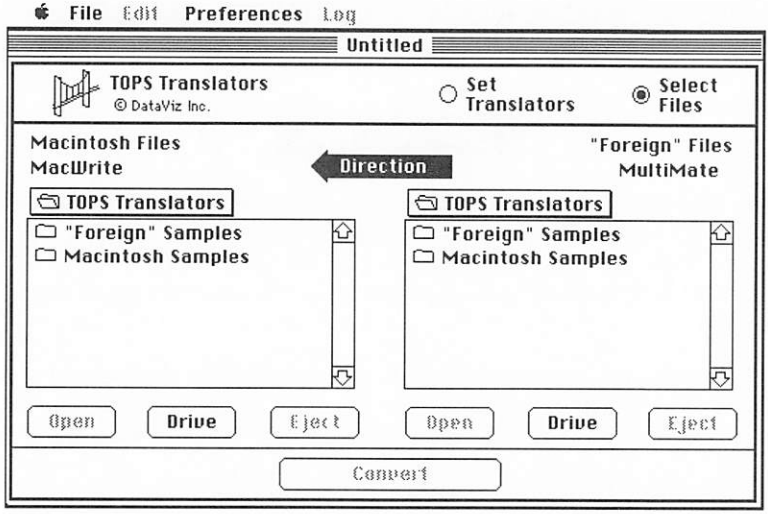
Click "MultiMate" in the "Foreign" Formats box.



Since MacWrite is the only possible choice, it is already selected in the Macintosh Formats box.

Select Files Screen

Now that you have selected the translators, click the Select Files button in the upper right corner of the screen. This switches you to the Select Files screen where you can choose the files and do the conversion. (Note that the Select Files button remains inactive until formats are specified in both Formats lists.)



The main part of the screen consists of two standard Macintosh file scroll boxes. The box on the left is for Macintosh files and the box on the right is for IBM PC files.

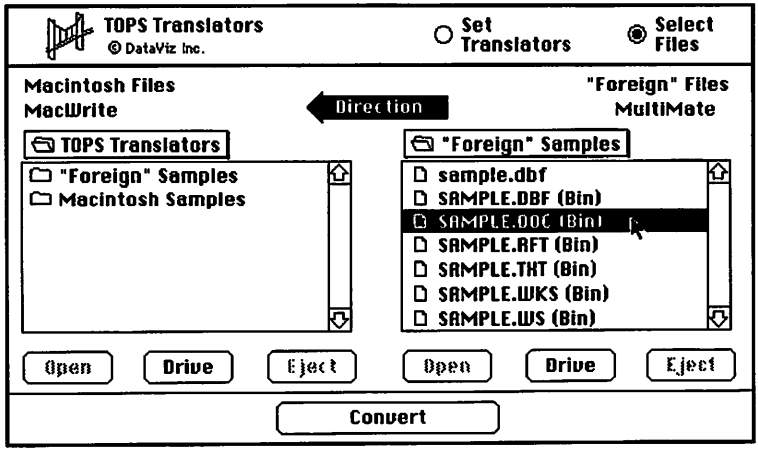
The names of the formats you specified in the Set Translators screen appear above the corresponding file boxes. For the example, "MultiMate" appears above the "Foreign" Files box, and "MacWrite" appears above the Macintosh Files box.

Use the Open, Drive, and Eject buttons to select the volume for the source file. If the file is in a folder, you can double-click on the folder name or select the folder and click the Open button.

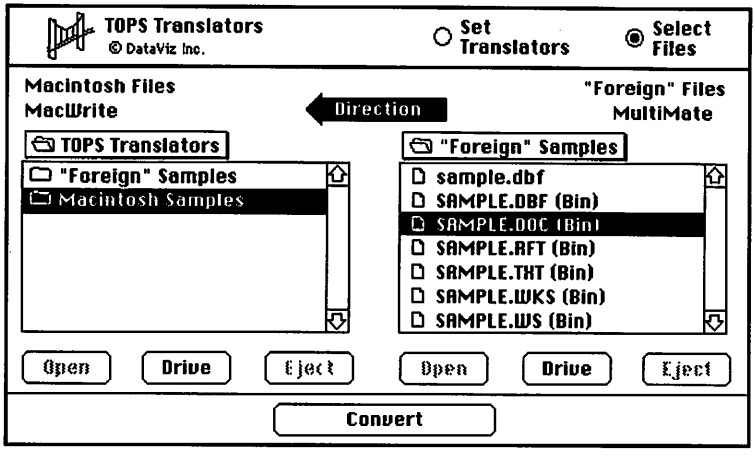
To translate a document on a remote machine, use TOPS to mount the volume on which the file resides. Then use the Drive and Open buttons to select the volume.

When you have found the file you want to convert, click on its name to select it. This activates the Convert button in the bottom middle of the screen.

"SAMPLE.DOC (Bin)" in the "Foreign" Samples folder is a MultiMate file. For the example, click on the file in the box on the right.



Next, you should select a location on a volume for the destination file. If you want it to be on the root (first) level of a disk, use the Drive button to select the disk. If you want the file to be in a folder, select the folder and click the Open button. For the example, select the Macintosh Samples folder.

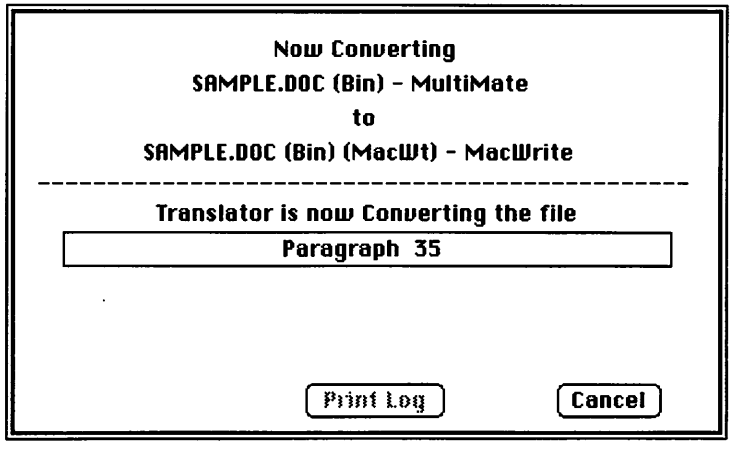


To write into a folder on a remote machine, first use TOPS to mount it. Then click the Drive button to select it.

Converting the File

Next, click the Convert button. This opens the New File Name dialog box where you name the file you want to create. TOPS Translators suggests the original file name with an abbreviation of the new format appended to it. You can change this name if you wish. For the example, click the OK button to accept "SAMPLE.DOC (Bin) (MacWt)."

TOPS Translators then translates the file. The Translation Status box appears on the screen during the translation to provide information about the translation's progress.



If you wish, you can click the Cancel button to cancel the translation.

When the translation is finished, the message "Translation Complete" appears in the box and a Done button replaces the Cancel button. An error message is displayed if a problem occurred.

You can translate more files once you have completed the first translation. If you want to change file formats, click the Set Translators button. This replaces the Select Files screen with the Set Translators screen. Then click the Clear Selection button to make all the formats available.

To quit from TOPS Translators, choose the Quit option in the File menu. You are then prompted to save the selected settings to a special file that can be used to start TOPS Translators with the same selections. You may create this file or click the Cancel button.

Other TOPS Translators Options

TOPS Translators keeps a log of all the translations made during a session. The log also identifies translation errors, if any. If you want to view, print, save or clear the log, use the choices in the Log menu.

TOPS Translators also lets you save your translation settings in a special TOPS Translators settings document so that you do not have to choose the settings each time you run the program. If you save your settings, you can simply double-click the icon for that document instead of the TOPS Translators icon. When you open a Settings document, the Select Files screen appears. The Macintosh and "Foreign" formats and the translation direction are preset.

To create a Settings document, choose Save Settings or Save Settings As... in the File menu.

Sample Files

Disk 2 contains additional MS-DOS sample files. Use them for testing or experimenting.

Name	Contents
SAMPLE.DBF (Bin)	dBase File
SAMPLE.DOC (Bin)	MultiMate Document
SAMPLE.RFT (Bin)	DCA from DisplayWrite
SAMPLE.TXT (Bin)	Text File (ASCII)
SAMPLE.WKS (Bin)	Lotus 1-2-3 Spreadsheet
SAMPLE.WS (Bin)	WordStar Document

The Translators

This section contains detailed information about the formats TOPS Translators supports and the translators it uses. Translators convert the contents of a file from one format to another format.

In most cases, there is one translator to read the format that a given Macintosh or MS-DOS application uses and another to write that format. For example, there is a reader for MultiMate files and a writer for MultiMate files. The same is true of Lotus 1-2-3, Multiplan and many other formats. Thus, translating a file generally requires two translators, one to read the file in its current format and one to write the file into the desired format.

Word Processing Documents

TOPS Translators contains readers and writers for many popular word processing formats. Among these are MacWrite, MultiMate, WordStar, DCA, and plain text formats. In addition, many other applications can open files in these formats. For example, files in MacWrite format can be opened in the Macintosh applications Microsoft Word and PageMaker, among others.

On the PC, many word processors offer a utility or an alternate format to read or write WordStar, MultiMate, DCA or text files in addition to their own proprietary formats. By using one of the formats supported as an intermediate file format, documents can be converted to and from many of the most popular IBM PC word processors.

The word processing translators identify and translate the following formatting: rulers, margins, paragraphs, indentation, tabs, tabular tables, bold, underline, italics, print styles, superscripts, and subscripts. In general, the translators ignore page breaks and footnotes.

The sample word processing documents provided on the TOPS Translators diskette have examples and descriptions of these features. You can use them to experiment with TOPS Translators.

You should be careful when translating WordStar files. Although WordStar supports many features included in word processing software, it does so in unique ways. For example, the tab key in most word processing software places a tab control code in the document. This code can be identified by a translator and properly expressed in the new file so that tab alignment is preserved.

In WordStar, however, the tab key does not put tab indicators in the document. Instead, WordStar counts character positions and adds spaces to determine where to place a tabbed character. Because character widths are not

constant in most Macintosh fonts, using spaces instead of tabs does not preserver column alignment. To preserve alignment, TOPS Translators uses the fixed-width Monaco font for all documents translated from the WordStar format.

Spreadsheets

TOPS Translators contains readers and writers for popular spreadsheet formats. These include: WKS (from the original Lotus 1-2-3 and many other products); WRK (from Lotus Symphony); WK1 (from 1-2-3, version 2); and SYLK (from Multiplan and many other products).

Generally, a spreadsheet is a grid of cells that may contain formulas, format specifications and numeric values or text. The TOPS Translators spreadsheet readers decode this information and organize it in a way that can be used by the TOPS Translators writers to build spreadsheets or other files that may use all or some of the information. TOPS Translators does not convert macros.

For example, you can create a spreadsheet that has the same formulas, formats and values as a Lotus spreadsheet . Or, if required by your application, you could create a file type (such as DIF) that only uses the values. If you wish to use the displayable "results" of the Lotus spreadsheet in a desktop publishing project, you could do so by requesting a Tab Text output. When you do this, TOPS Translators uses its Tab Text writer to take the Lotus values and place them in a tabbed text file in the same format that would be visible on the Lotus screen. A DIF file of only values can be used in any product that accepts the DIF format.

Databases

Databases are generally record-oriented. They contain text and numeric values, format specifications, structure information that identifies relationships between data items and/or records, and so on.

TOPS Translators contains readers for the dBase format. It also contains many writers that are capable of using the text and numeric values and the format specifications from the database while ignoring the structure information. This makes it possible to use values and formats from dBase II or III files to build databases in spreadsheets or in other database products which provide their own structure information.

Other Formats

TOPS Translators supports many other general purpose file formats. These are provided to allow you to import foreign data into your word processor, page processor, spreadsheet, or database application.

Comma Separated Values (CSV)

A CSV file contains ASCII text records with all values separated by commas, text values surrounded by double quotes, and a carriage return at the end of each record. One such record is created for each row or record in the original input file. The format of the text or numeric values within each record matches the format specifications from the original input file. This file format is accepted by many newer application packages. It provides an easy way to bring data from an existing spreadsheet or database into a new one.

dBase II or III

An ASCII file in the proprietary format of dBase products. It contains database structure, text and numeric values.

dBase Mac (DBF)

A Macintosh file in the DBF format of dBase II or III that can be used in dBase Mac or any Macintosh product that accepts the dBase DBF format.

DCA (IBM Revisable Format)

A binary word processing document in the DCA (Document Content Architecture) format. This format can be created and read with utilities provided with many products such as IBM Display Write 3, Microsoft Word for the Macintosh, and Word Perfect.

DIF

DIF files contain ASCII text records that express a row and column grid of numeric and text values without format specifications.

Excel (WKS)

A Macintosh file in the WKS format of Lotus 1-2-3 that was created by Excel from the Save As... dialog box.

Jazz (WKS)

A Macintosh file in the WKS format of Lotus 1-2-3 that can be opened from Jazz.

Lotus 1-2-3 (WKS)

A binary spreadsheet of formulas, formats, text, numeric values and so on in the format used by Lotus 1-2-3. Many other applications can open files in this format.

MacWrite

A word processing document in the format of MacWrite that can be used in MacWrite, Microsoft Word, or many products that accept the MacWrite format.

MultiMate

A binary word processing document in the MultiMate format.

Multiplan (SYLK)

An ASCII file in the standard SYLK format containing spreadsheet formulas, formats, text and numerics. It is an alternate format used by Multiplan and many other products.

Symphony (WRK)

A binary spreadsheet used by Lotus Symphony.

Tab Text

A file of ASCII text records that contains ready-to-display values separated by tabs with a carriage return at the end of each record. One such record is created for each row or record in the original input file. The format of the text or numeric values within each record matches the display format specs from the original input file. This format provides a convenient way to bring existing spreadsheet or database data into Macintosh word processing, database, spreadsheet, or publishing programs.

Tab Values

A file of ASCII text records with all values separated by tabs, and a carriage return at the end of each record. One such record is created for each row or record in the original input file.

Text

A file of ASCII text records containing strings of text without format information. Each line or record ends with a carriage return. This format is

acceptable to most word processing products and can be used an an alternate input or output for most word processors.

WordStar

A binary word processing document in the WordStar format.

Automatic Conversion

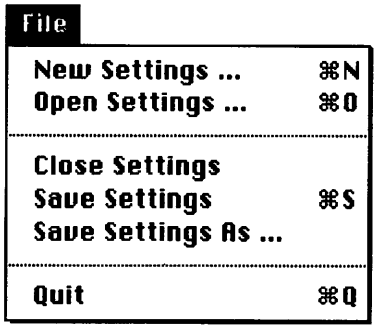
There are many other file formats available on both the IBM PC and the Macintosh. Fortunately, many MS-DOS and Macintosh programs can convert files without the aid of TOPS Translators. TOPS Translators has not implemented conversions for these since they are already handled by the programs themselves. For instance, Microsoft Word on the Macintosh can read files formatted by Microsoft Word on the IBM PC.

The following programs can convert files automatically:

- Excel and Jazz on the Macintosh can read 1-2-3 files.
- Ready! on the IBM PC and MORE on the Macintosh can exchange files.
- Newer versions of PageMaker on the Macintosh and IBM PC can exchange files.
- Word Perfect on the Macintosh (when released) and IBM PC can exchange files.
- MicroPlanner on the Macintosh and IBM PC can exchange files.
- McMax from Nantucket software can exchange files with dBase III on the IBM PC.
- Microsoft Word on the Macintosh and IBM PC can exchange files.
- dBase Mac and dBase III can exchange files.
- DBMan Mac can read DBMan PC and DBase III PC files.

TOPS Translators File Menu

The File menu contains commands for Settings documents and for quitting TOPS Translators.



New Settings
Creates a blank (new) settings document.

Open Settings
Opens a settings document stored on disk.

Close Settings
Closes the open settings document. If the current settings have not been saved, you will be given the option to do so.

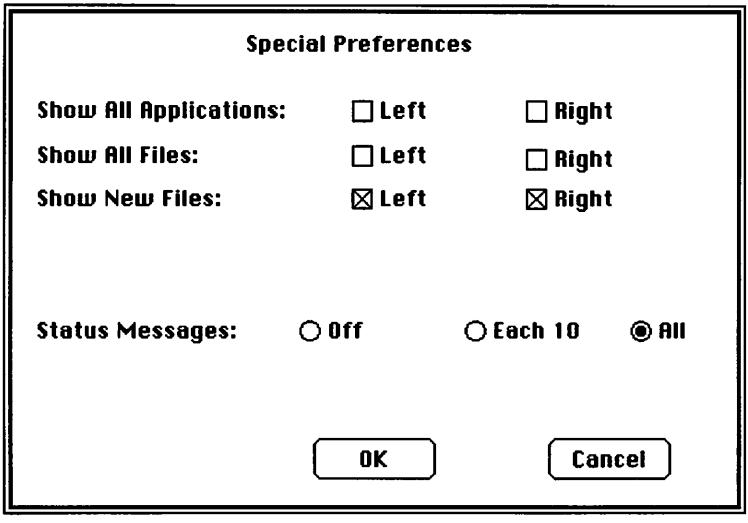
Save Settings
Saves the current settings in a settings document.

Save Settings As...
Saves the current settings in a settings document, giving you the option to specify the name and location for the file..

Quit
Closes the settings document and quits TOPS Translators. You will be prompted to save the settings if the current settings have not been saved.

TOPS Translators Preferences Menu

The Preferences menu contains a single option called Special. It allows you to change the default settings for displaying files, formats and translation status messages.



Show All Applications

The Set Translators screen contains two scrolling formats boxes. TOPS Translators is preset to display only Macintosh formats in the left box and MS-DOS formats in the right box. Check the buttons on this line to display both Macintosh and MS-DOS formats in the left or right box.

Show All Files

The Select Files screen contains two scrolling file selection boxes. TOPS Translators normally displays only files which are in the formats you selected in the Set Translators screen. For instance, if MacWrite was specified in the Set Translators screen, only MacWrite documents appear in the Macintosh box of the Select Files screen. To display all files in the left or right box, check its button on this line.

If an MS-DOS file you need does not appear in the "Foreign" files box, you may need to select this option. The reason is that TOPS Translators uses the three letter extension in MS-DOS file names to identify their format. For instance, 1-2-3 automatically uses the extension ".WKS" for formatted documents it creates. Consequently, only file names that end in ".WKS" appear in the "Foreign" files box when you choose the 1-2-3 format in the "Foreign" formats box. If the extension has been changed, you need to tell TOPS Translators not to assume that the extensions are standard.

Show New Files

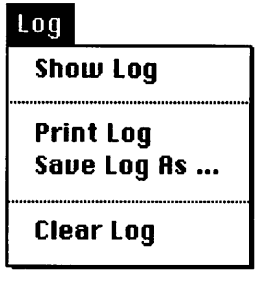
This option determines whether a new file is displayed in a file box immediately after TOPS Translators creates it. TOPS Translators normally obtains new directory information for the target disk and refreshes the display in the target file box after it creates a file. If you uncheck this button for one of the boxes, the directory will not be retrieved after each translation and new files will not be shown in that file box until some other operation causes the directory to be retrieved.

Status Messages
This option determines how frequently status messages are displayed during translations. For instance, when converting paragraphs of a word processing document, status messages can be turned off, status messages can be displayed for each paragraph, or for every 10 paragraphs.

TOPS Translators Log Menu

The Log menu contains commands for controlling the TOPS Translators activity and error log. When you translate a file, an entry is automatically posted to this log. Each entry includes the time, date, file names and translators used.

Errors posted to the log contain a description of the error and a reference to the location in the original file where the error was discovered. If there were translation errors, a message appears at the end of a file translation.



Show Log
Displays the log on the screen. You can scroll the log if all the information can not be displayed on the screen.

Print Log
Prints the log. You can also print the log by clicking the PRINT LOG button in the Translation Status dialog box.

Save Log As...
Saves the log file to disk. You can give the log file any name and save it to any location.

Clear Log
Deletes all records from the current log.

Chapter

10

TOPS Spool

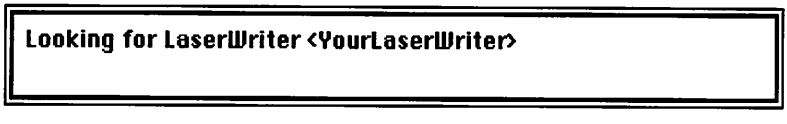
Introduction

Laser Printing Before TOPS Spool

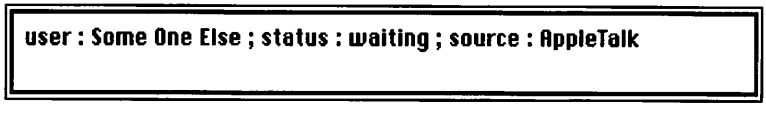
If you print using a Macintosh connected by AppleTalk to a LaserWriter, you have been through the following process many times:

Step 1. Tell your application program to start printing a document.

Step 2. Watch your system put up a dialog box that looks like this:



which means that it is looking for your laser printer. Next it may put up another dialog box that looks like this:



which means that the laser printer is already in use and the printing of your document has yet to begin. If you are lucky, your Macintosh will put up this dialog box:

which means that printing of your document has actually started. In either case, you are ready for the next step.

Step 3. Waiting. If there are many other people using the laser printer, or just a few people with long printouts, and your output has not started printing, you will probably be waiting for quite a while.

Step 4. Anywhere from half a minute to half an hour later your document will have been printed, at which point you can go on to your next task.

In the process described above, there were many steps that kept you waiting. But the only one that really needed the full capacity of your Macintosh was the actual generation of output for the laser printer.

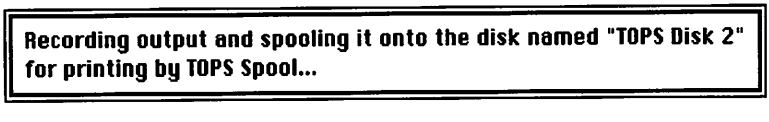
All the other steps — locating the printer, waiting for it to become available, sending the output to the printer in stages, confirming that it got to the printer correctly and waiting for the printer to actually create an image of each page and print it — used only a fraction of your Macintosh's capacity, while you were kept waiting.

Advantages of TOPS Spool

Now look at laser printing with TOPS Spool installed. The first step is the same.

Step 1. Tell your application program to start printing a document.

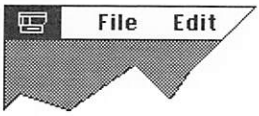
Step 2. Watch as TOPS Spool puts up a dialog box that looks like this:



While this dialog box is displayed, your Macintosh is generating your output. This is the only part of the printing process that really needs the Macintosh's undivided attention. As it does this, TOPS Spool records your output onto your disk.

Step 3. Most of the time, the dialog box will go away in a fraction of a minute and you can go on to your next task. If your output is very long or graphically complex, you may have to wait a few minutes.

While you continue your work a small laser printer icon flashes intermittently in the upper left corner of your screen like this:



This signal indicates that TOPS Spool is taking care of printing your output — looking for the laser printer, waiting for it to become available, sending your output to it, waiting for each page to be printed — all while you are using your Macintosh to perform other tasks.

Spooling

Because your Macintosh can generate documents faster than the laser printer can print them, the successive outputs to be printed must be recorded and stored if they are to be printed later while you do other work. The key idea behind spooling is not simply recording the outputs to be printed and printing them later, but actually printing them while other work is in progress.

A program that records output for a printer and then prints it without interfering with the primary use of a computer is called a *background print spooler*. The term *background* refers to the fact that the program does not interfere with the primary use of the computer.

Because a print spooler can accumulate output faster than a laser printer can print it, there needs to be a way for you to see and manipulate the queue or list of spooled outputs to be printed. Furthermore, you need to be able to turn the spooler on and off and control its behavior in other ways.

Overview of TOPS Spool

TOPS Spool consists of a background print spooler and a Macintosh desk accessory for controlling it. The desk accessory enables you to turn the spooler on and off, change the order in which spooled outputs will be printed, and choose other options related to the spooling process. Because it is controlled by a desk accessory, you can manage the print spooler without having to leave the application that you are using.

The background spooler invisibly bypasses the normal Macintosh laser printing process. It automatically redirects the output generated by your application to a temporary disk file instead of sending it directly to the laser printer. Since the laser printer is bypassed, this process never takes any more time than is required to actually generate the output data (also called a *PostScript file*) for the printer and write it onto your disk.

Once the output has been generated, control returns to your application. At this point, you can continue, or you can quit and launch another application. At any time, you can spool additional documents to be printed.

Whenever the spooler has a job in its queue, it checks every few seconds to see whether the laser printer you had selected at the time you spooled the output is available. When that laser printer is free, the background print spooler sends the data for that output from your disk to the laser printer. Because it is a background program, the spooler handles the actual printing of the output in a way that is invisible to other applications that you may be using, so you can still do other work.

The background spooler is loaded automatically each time you turn on your Macintosh. Once you have installed TOPS Spool, you do not have to do anything further to use it.

TOPS Spool's principal features include:

- It lets you select and use the Print option from the File menu of your applications, as you normally would.
- It lets you work while your spooled outputs are being printed on an AppleTalk-based laser printer (Apple LaserWriter or equivalent) and eliminates the headaches involved with sharing printers.
- Because it is controlled by a desk accessory, it can be managed from within any standard Macintosh application.
- Its built-in print queue lets you quickly remove, stop printing, or change the sequence of output you have spooled.
- It works with many different applications at the same time (including PageMaker, MacWrite, Word, Excel, MacPaint, More, and so on).
- Disk selection allows you to spool your output to any mounted volume, including volumes provided by TOPS. (Spooling to remote volumes, however, increases network traffic and is not recommended).
- It can send spooled outputs to different laser printers on the same network.
- Automatic crash protection recovers any spooled output that had not been printed prior to the crash. You never lose your work.
- Its control options allow instant notification at the beginning and/or end of the printing of each output.
- TOPS Spool installs quickly and requires only 40K of disk space.
- It loads automatically and uses only 65K of memory.
- It is fully compatible with the LaserWriter and LaserWriter Plus.

- It requires no dedicated Macintosh or hard disk.
- It is compatible with downloadable fonts.
- It works with InterBridges and Zones.
- It is not copy protected.

Benefits of TOPS Spool

The following examples show some of the ways that TOPS Spool allows people to use their Macintoshes more efficiently.

Rapidly Spool Several Documents from Different Applications
There is no need to wait for one document to finish printing before spooling another document from another application. For example, you can spool your Excel spreadsheet and quit Excel. Then you can open a MacWrite document and spool it without having to wait for the Excel spreadsheet to finish printing. TOPS Spool prints while you work and is unaffected as you move from application to application.

Accumulate Output for Printing Later
You can add documents to the spooled output queue for printing at a later time. Turning off "Print spooled output while I work" and leaving spooling on will continue spooling documents and adding them to the spooled output queue. Documents are still spooled but background printing is disabled. For instance, you can prepare your queue in the morning and reorganize it in the afternoon for printing in the evening. Turning on Print spooled output while I work restarts the printing of the spooled output in the queue.

Work on a Document While an Earlier Version Is Being Printed
Often you need to print out the same document over and over with minor revisions each time. With TOPS Spool you can repeatedly spool revisions of the same document. While earlier versions are printing, you can work on the next revision.

Getting Started With TOPS Spool

This section will help you install TOPS Spool and to familiarize you with TOPS Spool's controls. For normal operation, spooling output and printing while you work, TOPS Spool is turned on and ready to run as soon as it is installed in your startup disk. Just print the way you always have, and TOPS Spool will do the printing while you go on with your work.

The guided tour will show you how to use TOPS Spool's options and commands, as well as how to interpret the information displayed by the TOPS Spool's desk accessory.

What You Need To Begin

TOPS Spool requires the following:

- Either a Macintosh 512K, 512KE, MacPlus, or Macintosh XL, Macintosh SE, or Mac II.
- Version 3.2 (or higher) of the System file, 5.3 (or higher) of the Finder, 3.3 of the Laser Prep and 3.1 of the LaserWriter (copies of these files can be found on the TOPS Disk 2)
- 65K of memory and 40K of disk space for the software itself
- A suggested minimum of 75K to 150K of disk space for temporary storage of spooled documents on any mounted disk
- One free desk accessory slot. The Font/DA Mover allows 15 slots. Some desk accessories may use more than one slot.
- Connection to an AppleTalk-compatible network and either a LaserWriter, LaserWriter Plus, or a LaserWriter-compatible network printer.

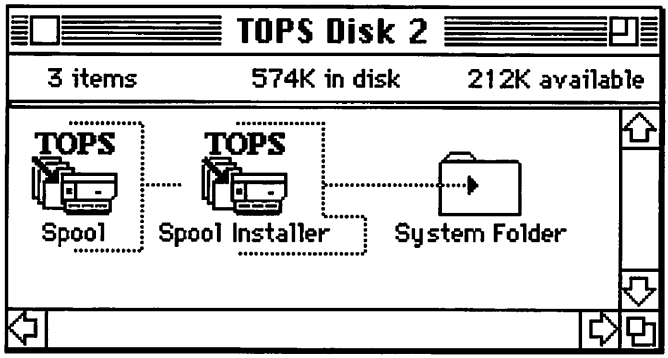
Note: Your network will not work properly if different versions of AppleTalk and the LaserWriter software exist on the same network.

Installing TOPS Spool

The following section is a tutorial on installing TOPS Spool. All you need for the tutorial is a backup copy of the TOPS Disk 2. During the tutorial you will install TOPS Spool onto your backup copy of the original disk. After you have completed the tutorial you will be able to install TOPS Spool onto your own "Start-Up" disk.

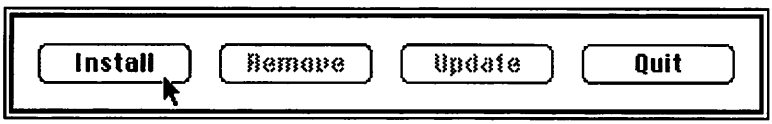
Before you start, make a backup copy of your TOPS Disk 2 , if you have not already done so. Then, be sure that you use the backup copy instead of your original copy.

Step 1. The goal of this tutorial is to install TOPS Spool onto the backup disk. To do this, drag the files entitled "Spool" and "Spool Installer" into the System Folder:



Step 2. Open the System Folder.

Step 3. Then, double-click on the Spool Installer. This will launch the Spool Installer program. After the program has started up, it will prompt you with the following:



Step 4. Click the INSTALL button.

The Spool Installer will notify you that installation of TOPS Spool is complete with a dialog box like the one shown below:

Step 5. Click the OK button to return to the Finder. You may now delete the Spool Installer program from your system folder.

Step 6. After you have returned to the Finder, select the Shut Down or Restart option from the Special menu.

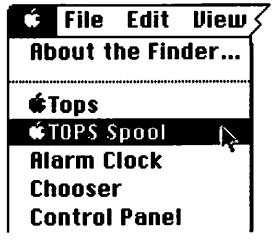
Step 7. Using the backup disk as your "startup" disk, restart your Macintosh. Open the Chooser desk accessory and select the LaserWriter to which you wish to print.

To install TOPS Spool onto your own startup disk, simply put a copy of the files "Spool Installer" and "Spool" into the System Folder of your startup disk as you did for your backup disk (Step 1). You should also copy the "LaserWriter" and "LaserPrep" files from the TOPS Disk 1 to your system folder if you do not already have them there. You must run the Installer file from the startup disk. Follow the remaining instructions as in the example above.

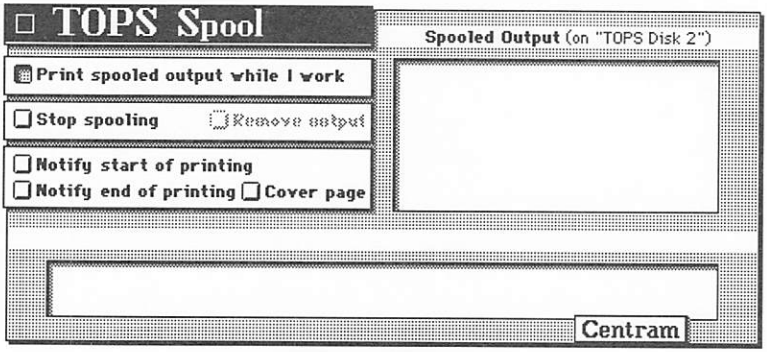
Guided Tour of TOPS Spool

The tour assumes that your startup disk is the backup copy of the TOPS Disk 2 which you installed TOPS Spool onto using the instructions above. If at any time you find yourself off track with this tutorial, relax, shut down your Macintosh and start fresh again.

Step 1. Open the TOPS Spool desk accessory by selecting TOPS Spool from the Desk Accessories menu:



The TOPS Spool desk accessory should now appear on your Macintosh's screen along with an additional menu titled "TOPS Spool":



TOPS Spool has control buttons that can be operated by moving the cursor to the button and clicking once:

This button is depressed (ON)

This button is popped up (OFF)

Notice that all of the buttons are popped up except the one next to "Print spooled output while I work."

Step 2. Turn off "Print spooled output while I work" by popping up its button. This action turns off printing, but allows spooling to continue. Now you will use TOPS Spool to spool two printouts. Because you have just turned off background printing of the spooled output, the two printouts will accumulate in the spooled output queue. You will generate the printouts by using the Finder's Print Catalog option to first print a catalog of the contents of the disk and then print a catalog of the contents of the System Folder.

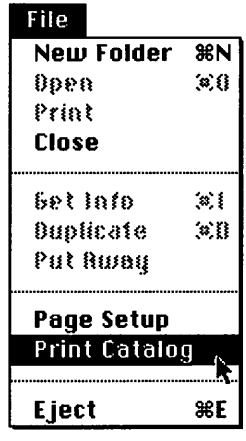
Step 3. Close the TOPS Spool desk accessory by clicking the close box in the upper left corner.

Step 4. Open the Control Panel from the Desk Accessories menu and verify that AppleTalk is connected. Close the Control Panel.

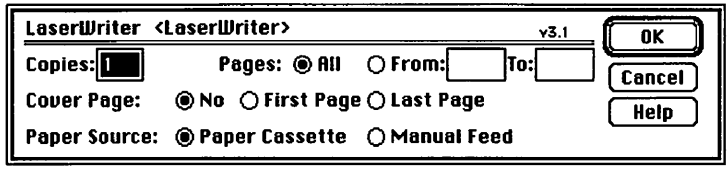
Step 5. Open the Chooser desk accessory from the Desk Accessories menu and select the LaserWriter to which you wish to print. Close the Chooser.

Step 6. Double-click on the TOPS Disk 2 icon to open the disk.

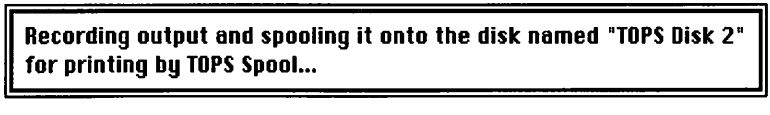
Step 7. Choose Print Catalog from the File menu:



You are prompted with this print dialog box:



Step 8. Click OK. You will then see:



The catalog of your disk is spooled, yet printing will not begin until the "Print spooled output while I work" button is turned on.

Once some output has been spooled, TOPS Spool will intermittently flash a laser printer icon in the left corner of the menu bar on top of the apple icon:

Step 9. Now double-click on the System Folder icon. Choose the Print Catalog option from the File menu again. When the print dialog appears, click OK again.

Step 10. Now choose TOPS Spool from the Desk Accessories menu. This will bring the desk accessory forward and you will see the two catalogs you spooled in the list of Spooled Output. The TOPS Spool catalog is number 1 in the list which means that it will be the first output to be printed when printing is turned on.

Step 11. Now change the order of the queue so that the System Folder catalog will be number 1, instead of 2, as it is now. Click on the line that reads "1.TOPS Spool (Finder)" in the small window titled "Spooled Output" and drag it to the bottom of the list. (If the output being dragged is currently printing, you will be asked if you want to cancel the printing or cancel the change in the order.) Now the order of the two spooled outputs in the queue is reversed.

Step 12. Click on the TOPS Spool entry in the list of Spooled Output. The Remove Output button will become visible after selecting the document. Now remove this spooled output.

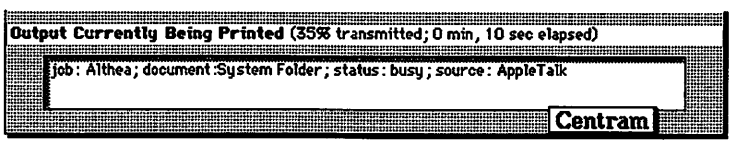
Step 13. Click on the Remove Output button. This removes the TOPS Disk 2 catalog entry from the spooled output list.

Step 14. Assuming your laser printer has been properly connected, you can now print the spooled catalog for the TOPS Disk 2. Turn on "Print spooled output while I work" button. This will begin sending spooled output to the laser printer.

TOPS Spool Desk Accessory

Jobs

The TOPS Spool desk accessory shows you what is being printed on the LaserWriter and how much of your job has been completed.


Output Currently Being Printed (35% transmitted; 0 min, 10 sec elapsed)
job: Althea; document :System Folder; status: busy; source: AppleTalk
Centram

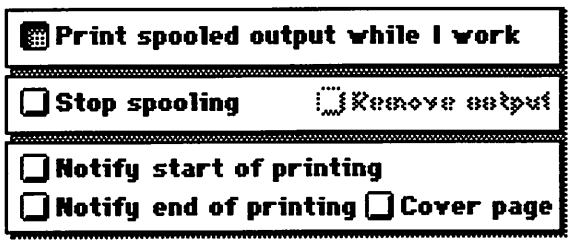
- The percent transmitted that is shown is the amount that has been sent to the laser printer, not the amount that has been printed.
- The time that is shown is the combination of how long the document has been printing and the time that TOPS Spool spent waiting for the printer to be ready.

- The bottom portion tells you who is currently using the laser printer and what job they are printing. The job name is set with the Chooser desk accessory, the document name is the file being printed, and the status tells you what the laser printer is doing (such as "Idle," "Busy," "Waiting," or errors such as "Out of paper").

When the status display goes blank, your background printing is finished. Of course, if there is another output spooled in the list, information concerning its printing will appear in the status display next.

Buttons

The buttons on the TOPS Spool desk accessory let you control when your documents are printed, what messages are relayed concerning print status, and whether or not a cover page is included.



- If the "Print spooled output while I work" button is down, all output in the queue will be printed while you work. If the button is up, the files in the list are held in the queue until you press this button.

- If the "Stop spooling" button is popped up, printing in an application will put the output in TOPS Spool's queue. If this button is down, all printing from the application will go directly to the printer.

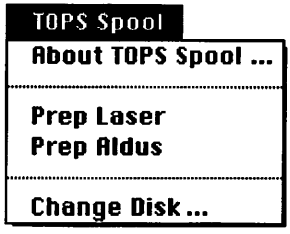
- The "Remove output" button becomes active when you select a file in your print queue. When you press this button, the file is removed from the queue.

- If either of the notification buttons are down, you will be notified before and/or after the document is printed.

- If the "Cover page" button is down, TOPS Spool will add a cover page showing your name, the file name, and the date and time when the file began printing.

Menus

In addition to the controls on the desk accessory, there is a TOPS Spool menu.



- "About TOPS Spool" shows the version number for TOPS Spool.
- "Prep Laser" initializes the laser printer. Use this if your file is the first to be printed after the laser printer is turned on. You will be notified if this is necessary.
- "Prep Aldus" also initializes the laser printer. Use this if your file is the first to be printed using PageMaker after the laser printer is turned on. You will be notified if this is necessary.
- "Change Disk ..." selects the disk on which you want your spooled output to be saved. This can be a remote volume on the TOPS Network (although this is not recommended).

Using TOPS Spool with Other Products

TOPS Spool is designed to be compatible with a wide variety of Macintosh hardware and software. The following information will help you when using TOPS Spool with certain products.

PageMaker

If you have spooled a PageMaker document, and it is the first PageMaker output to be printed since the laser printer has been turned on, TOPS Spool will ask you to choose the Prep Aldus option from the TOPS Spool menu in the TOPS Spool desk accessory. The Aldus Prep file must be in the same folder that contains your System file and Finder for you to be able to use the Prep Aldus option from within any application.

File and Disk Servers

The disk onto which output is spooled may be any mounted volume. Disks on the network recognized by your file/disk server software count as mounted volumes. Use the Change Disk... option from the TOPS Spool menu in the TOPS Spool desk accessory to select the volume you want to use. Spooling to a remote volume with TOPS adds network traffic. It is highly recommended that you spool to a local disk.

Downloadable Fonts

Downloadable fonts are special laser fonts (typefaces) that are purchased separately from third party vendors. *Downloading* a font means that the font is sent to the LaserWriter for use in printing. Standard fonts like Times and Helvetica are built-in to the LaserWriter, and thus do not need to be downloaded. The specific procedure used to manually download laser fonts varies from vendor to vendor. See the documentation that came with your purchased downloadable laser fonts.

Paint Programs

MacPaint, FullPaint, and SuperPaint bypass the standard Macintosh print dialog box. As a result, these applications do not make the name of a file being printed available. Therefore, when spooling output from these applications, TOPS Spool only displays the application name, not the output file name, in the list of Spooled Output.

Appendix

A

A Ten Minute Guide to All of TOPS' Features

Opening the Desk Accessory

1. Click on the Apple icon at the top of your desktop.
2. Select TOPS by dragging with the mouse and releasing when TOPS is highlighted.

Browsing Local Volumes

1. Select a volume from the list on the left side of the TOPS desk accessory.
2. Click Open.
3. Select a folder from the same window.
4. Click Open.
5. Select a file.
6. Click Help for information about the file.
7. Click on the folder's name (at the top of the window).
8. Select your volume or station name to return to that viewing level.

Publishing a Volume

1. Select a disk or folder from the list on the left side of the TOPS desk accessory.

2. Click Publish. The volume will be published "One writer" with no password.
3. Select another disk or folder.
4. Press the Option button on your Mac and click Publish.
5. Type a password into the box that appears.
6. Click on the Write-protected button.
7. Click on the Remember button.
8. Click OK. The volume will be available on a read-only basis to anyone on the network who knows your password and will be automatically published whenever your Macintosh is started.

Listing a Volume's Clients

1. Select a published volume.
2. Click Help.
3. Close the first Help window. The window underneath it lists the stations that are using your volume.

Unpublishing a Volume

1. Select a published volume.
2. Click Unpublish.

Unpublishing Many Folders in One Volume

1. Select the volume.
2. Click Unpublish.

Unpublishing All Your Volumes

1. Select your station name.
2. Click Unpublish.

Browsing Remote Volumes

1. Select a file server from the list on the right side of the TOPS desk accessory.
2. Click Open.
3. Select a volume from the new list.
4. Click Open.
5. Select a folder.
6. Click Open.
7. Select a file.
8. Click Help for information about the file.
9. Click on the folder's name (at the top of the window).
10. Select your volume or station name to return to that viewing level.

Mounting a Remote Volume

1. Select a disk or folder from the list on the right side of the TOPS desk accessory.
2. Click Mount.
3. If requested to do so, type in the password.

Choosing Your Access To a Volume

1. Select a disk or folder from the list on the right side.
3. Press the Option key and click Mount.
4. The access modes available are be highlighted in black. You may also click Remember to automatically mount each time you boot your Macintosh.

Listing Mounted Volumes

1. Select the heading "File Servers" or "Zones" above the list on the right.

2. Click Help.

3. Close the first Help window. The second Help window lists all of the volumes you have mounted.

Unmounting a Volume from the Finder

1. Select a TOPS icon from your desktop.

2. Drag the icon to the trash.

Unmounting a Volume from TOPS

1. Select a disk or folder that has been mounted.

2. Click Unmount.

Unmounting Many Volumes from the TOPS Desk Accessory

1. Select a disk or folder icon that has been highlighted in black, indicating that some of its contents have been mounted.

2. Click Unmount.

Unmounting All Remote Volumes from the TOPS Desk Accessory

1. Select the heading File Servers.

2. Click Unmount.

Copy File From Local to Remote

1. Select and open a remote volume from the list on the right.

2. Select a file from the list on the left.

3. Click Copy.

Copy File From Remote to Local

1. Select and open a volume from the list on the left.
2. Select a file from the list on the right.
3. Click Copy.

Copy Conversion

1. Select a file to be copied as outlined above.
2. Press the Option button while you click Copy.
3. Click "Copy Text Only".

View a File Within the TOPS Desk Accessory

1. Select a file from either window.
2. Click Help.
3. Close the first and second windows.
4. The third Help window contains a quick view of the file's contents. The heading "Sample" indicates that you are viewing everything in the document. The heading "Filtered Sample" indicates that some unrecognizable characters have been screened out.

Appendix

B

Troubleshooting and Error Messages

If you have persistent problems with TOPS that are not solved by any of the following tips, your TOPS dealer should be able to provide you with the best support. You may contact TOPS Technical Support at (415) 549-8737 (549-USER) or the TOPS Talk Bulletin Board Service (BBS) at (415) 549-5955 (300/1200/2400 baud, 8 data bits, 1 stop bit, no parity). TOPS technical questions can also be answered over AppleLink (D0098) or in the TOPS user conference on the BIX network.

Before calling Technical Support, please verify the date of your TOPS disk. You can do this by:

- Viewing the TOPS banner on bootup — it will show you the date of TOPS
- Selecting the TOPS icon in the System Folder, choosing Get Info from the File menu in the desktop
- Opening the TOPS desk accessory, holding down the Option key, and clicking on the Help button

TOPS error messages come from two sources. Messages from the background driver appear in a window near the bottom of your screen at any time that an error condition occurs. Messages from the TOPS desk accessory appear in a window over the Accessory's window, only while you are running the accessory. The following list shows all possible messages, and gives a brief explanation of their meaning and of the choices available.

Troubleshooting

Servers Can't Be Seen on the Network

This problem is usually caused by having an improperly terminated branch in your AppleTalk network. Either your AppleTalk cables have come loose,

or there are no terminating resistors at each end of the network (if you are using a cabling system such as TOS TeleConnectors that requires resistors at the ends). See your cabling manual for more information.

If a server cannot be seen on a correctly terminated network, the other possibilities are:

- The AppleTalk connector is not plugged into the printer port on the Macintosh, or is loosely connected.
- If you are trying to communicate with an IBM PC or compatible, the TOPS PC board needs reseating.
- AppleTalk is not active in the Chooser or Control Panel of a Macintosh.
- The server has not published any volumes. Please refer to the TOPS manuals for instructions on how to publish volumes.
- If you have an IBM PC or compatible in your network, there may be a DMA conflict.

TOPS and Hard Disks Which Require Boot-up Floppies
If you have a hard disk which requires a bootup floppy (such as the MacBottom), you will need to install TOPS on your bootup disk as well as the System folder of your hard disk.

Actions That Should Be Avoided on the Server
While clients are using a server, there are certain utilities and actions to be avoided. Formatting disks, copying files, using Resedit, Font/DA Mover, Fedit, or other system utilities all disrupt the communications between the server and its clients. This happens because any disk- or system-modifying actions take priority over everything else, including network activities. We advise that you unpublish the volume before you do your disk operations or use any system-modifying utilities.

TOPS Error Messages

Booting

The following messages might appear on your screen while you are booting your Mac with TOPS installed on your boot disk.

Install TOPS?
This will appear if your are holding down the Option key or the mouse button while you are booting.

TOPS: Can't Open AppleTalk.
TOPS tries to open AppleTalk as soon as it is installed. If it can't, it presents this message and then uninstalls itself. The most likely cause is that the AppleTalk drivers aren't installed in your system.

Signing On

The following messages might appear when you open the TOPS desk accessory.

No List Manager (Pack 0).
The desk accessory needs this system resource to run. You probably have an old System file.

Please Install TOPS First.
The desk accessory cannot run until the TOPS driver has been installed. You must either boot from a disk with TOPS in the System folder, or you must run the Start TOPS program.

Please use 31 or Fewer Characters.
Your network name can have a maximum of 31 characters.

Sorry, That Name is Already in Use. Please Try Another.
Two different users cannot use the same network name. You'll have to use another one while the other user is logged on the network.

Sorry, Name Registration Error.
For some reason AppleTalk couldn't register your network name. Try again. If it still fails, try simplifying your environment: are you trying to run other AppleTalk programs at the same time? Or other "background" programs that use a lot of memory? Try eliminating one of these. If all else fails, try another name.

Sorry, your serial # ____ is Already in Use by: _____.
Each station on your network must have a different serial number. You must use a different copy of TOPS with a unique serial number in order to sign on to the network.

Warning: TOPS Has Been Damaged.
If the TOPS driver becomes damaged, it will present this message once as soon as the damage is detected. You should save your work and unmount any remote volumes as soon as possible. Current connections will be maintained as long as possible, but any attempt to use the TOPS desk accessory will present one of the messages below.

Warning: This Copy of TOPS Has Been Damaged! Please Return it From Backup.
If the TOPS driver has been damaged before you start using it, this message will appear the first time you try to use your desk accessory. To replace the

damaged driver, copy the file called "TOPS" from your Disk 1 master and replace the working copy of the "TOPS" file.

Warning: This TOPS has been damaged! Please Save Your Work and Re-Boot as Soon as Possible.
If TOPS is already in use when the driver becomes damaged, this message will appear when you try to use your desk accessory.

Opening

These messages might appear while you are using the TOPS desk accessory to browse through the new servers, volumes, or folders available on the network.

That Server is Running a Different Version of TOPS.
Your Mac is running a different version of TOPS than the server, and they may or may not be compatible. You can try the connection at your own risk.

That Server is Running an Incompatible Version of TOPS.
Your Mac is running a different version of TOPS than the server, and they are definitely not compatible. You will have to upgrade TOPS either on your Mac or the server. (You may also see this message if a serial number conflict is detected after sign-on.)

Sorry, That Server is Not Responding.
You will get this message if the server does not respond within a certain amount of time — typically 30 seconds. Either the server has shut down or crashed, or the person using the server is doing something that blocks its network activity, such as running a program that doesn't support desk accessories.

Sorry, Can't Open That Volume.
You will get this message if TOPS cannot open a particular volume and there is not a more specific error message available. Again, the message is probably due to the server's failure or an activity that blocks network activity.

Sorry, Can't Open That Directory.
You will get this message if TOPS cannot open a particular directory, and no more specific error message is available. You may also receive this message when you double click on a file icon. Files cannot be opened from the TOPS desk accessory.

Sorry, Can't Read That Directory.
You will get this message if TOPS cannot read a particular directory, and no more specific error message is available.

Mounting/Unmounting

These messages might appear while you are using the TOPS desk accessory to mount or unmount volumes.

That Volume is Write Protected and Has No DeskTop File. You Can Use It From an Application, But the Finder Will Reject It.
See the description of this problem in Chapter 5.

Sorry, No More Than 6 Remote Volumes May be Mounted at Once.
When this message appears, you must unmount one of your previously mounted volumes before you can mount another. Although any number of volumes can be published, a station can only mount 6 remote volumes at a time.

Warning: You Have Open Files on That Volume. The Safest Way to Unmount it is to Return to the Finder and Drag its Icon to the Trash.
This message usually appears when you try to unmount a volume from the TOPS desk accessory while the Finder is running. The Finder keeps an invisible DeskTop file open on each volume, and it may have information in memory that needs to be written out. If you return to the Finder and drag the icon to the trash, then the Finder itself is responsible for the unmounting, and it will flush the DeskTop properly. If you are running an application when you get this message, then a document from the remote volume may still be open. If so, you can close it and then unmount from the desk accessory without returning to the Finder. But returning to the Finder is always the safest course of action, since that will force the application to properly close its files.

Publishing/Unpublishing

These messages might appear while you are using the TOPS desk accessory to publish or unpublish volumes.

Sorry, Two Published Volumes May Not Have the Same Name.
You will get this message if you try to publish a volume or a folder with a name that is identical to something you have previously published. Each server's volumes must have distinct names. You should return to the Finder and rename the volume you are trying to publish.

Warning: "_____" Has Active Users. If You Continue, They May Lose Their Work.
You will get this message if you try to unpublish, eject, or unmount a volume that someone else is currently using. You should cancel the operation, click Help to get a list of users, and ask them to save their work.

Copying

These messages might appear while you are using the TOPS desk accessory to Copy a file to or from a remote server.

That Volume is Write Protected.
You will get this message if you try to copy a file to a write protected volume. You should have the server republish the volume in a mode that allows writing.

Sorry, There is Not Enough Space on That Volume.
You will get this message if you try to copy a file to a volume that doesn't have enough room. You will have to delete some files on the destination volume, or copy to another volume.

Please Use 31 or Fewer Characters.
If the destination volume already has a file with the same name as the one you are trying to copy, you will be given a chance to specify a new name. You will get this message if you try to specify a name with more than 31 characters. You should edit or re-type the name.

General

Break This Server Connection?
If your Mac ever seems to be "stuck" while the network activity light is blinking, then you are connected to a server which has become unable to respond. If the server's case is really critical (someone has tripped over the power cord, for example), your Mac will stop trying within 30 seconds. (You can tell if you are in the middle of a network operation by looking at the upper left corner of your screen. A tiny "light" will blink on and off while your Mac is waiting for the server to respond.) Be careful about choosing "Give Up" unless all your work has been saved. Some programs crash when you break one of their operations.

Sorry, Out of Memory.
Try closing some files and/or unmounting some volumes to free up enough memory. If you have an all-Mac network, you could also reboot and delete the InterBase file.

Sorry, Network Error.
This message is given in the rare case of a network error that isn't covered by any of the other more detailed error messages. It usually pertains to network hardware.

Sorry, That Operation Failed.
This message is given when the desk accessory is unable to read the specific error message it wants from the disk.

TOPS Translators

Troubleshooting

If you translate a file and the new file contains inappropriate characters or is unacceptable to the target application, one of the following problems may have occurred.

Trouble seeing PC Formatted Files

Since PC formatted files, unlike Mac files, contain no information about the application which created them, it is imperative that their file names have the correct file extensions (such as .WKS for 1-2-3 and .DOC for MultiMate).

Check the format selections

The original file's format and the format specified in the Select Translators screen must match. For example, if you selected WordStar format, the original file must be in WordStar format. Note that some programs that claim to format files like other programs (such as programs that claim that their output files are in WordStar format) may not actually format the files correctly.

Be sure the source file was created correctly

If you used another file conversion utility to create the source file for TOPS Translators, be sure the conversion occurred correctly. For example, if you used a DisplayWrite 3 conversion utility, be sure that the file was converted correctly. Also, if you were supposed to save the file from the original application using a special save option (such as Multiplan's SYLK option or Excel's WKS option) make sure you did so correctly.

Error Messages and Codes

Normally, an error condition causes a numbered message to be displayed. This number should be used to locate the message in the following tables. The description of a translator message may begin with "Error" or "Warning". For instance, "Error" indicates that the specified cell must be corrected in the new spreadsheet. "Warning" indicates that the condition is a warning that should be noted but may not require adjustment.

TOPS Translators must be run from a hard disk or an unlocked floppy disk. If the TOPS Translators application is launched from a locked floppy disk, you may get errors -1 and -51 during the translations and the log can not be created correctly.

The following is a list of errors you may encounter during translations.

General Errors

199 There is not enough room on the target disk for the output file
You should save the file to a disk with more room on it.

200 Internal error
This is a program error that should be reported to TOPS.

201 Cannot open input file
202 Cannot open output file
203 Write error on the output file
The disk may be full. Try the operation on a disk with more space.

204 Operation cancelled
You clicked the Cancel button.

205 Read error on input file
The source application may have written bad data in the file.

206 Format error on input file
The source application may have written bad data in the file.

207 Memory is full
There is not enough memory in the computer to do this conversion.

208 Unsupported software version
This is a program error that should be reported to TOPS.

209 Format error on input file
The source application may have written bad data in the file.

Lotus to Multiplan Translator

017 Cell reference ***greater than maximum R256 C64***
Error. The referenced cell is beyond the Multiplan maximum of 256 rows and 64 columns.

018 Date format used, moved numeric value of day only
Warning. A cell or cells in the Lotus spreadsheet used a date format specification that is not supported by Multiplan. The numeric value in the cell was moved to the new spreadsheet but no date format was specified for the cell. Locate the cell and add your own format.

029 Not enough memory for range name reference
Warning. The translator ran out of memory while trying to create the referenced range name.

055 ***Stack overflow at*** reference ***with*** reference
This is a program error that should be reported to TOPS Technical Support.

056 ***Stack underflow***
This is a program error that should be reported to TOPS Technical Support.

Each of the following messages identifies a cell that could not be fully recognized and/or converted by the translator.

057 ***Cell*** reference***: UNKNOWN code*** reference
Error. An unknown 1-2-3 function appears in the formula.

058 ***Cell*** reference***: Can not convert*** reference***, edit***
Error. The function has no Multiplan equivalent.

059 ***Cell*** reference***: Warning*** reference ***found, edit***
Warning. The function is handled differently by Multiplan.

064 ***Cell*** reference***: <UNKNOWN*** reference**>**
Error. An unknown 1-2-3 function appears in the formula.

Multiplan to Lotus Translator

Each of the following messages identifies a cell that could not be fully recognized and/or converted by the translator. Each of these indicates cell errors.

074 ***Illegal character as shown at cell*** reference
Error. Syntax error in the Multiplan formula.

077 ***Missing*** reference ***in cell*** reference
Error. Syntax error in the Multiplan formula.

078 ***Undefined function in cell*** reference
Error. An unknown Multiplan formula was found.

079 ***Illegal function in cell*** reference
Error. The function has no 1-2-3 equivalent.

080 ***Unknown name in cell*** reference
Error. Reference to an undefined range name.

086 ***Name*** reference ***not understood***
Error. Syntax error in the Multiplan formula.

087 ***Not enough memory for shared cell*** reference
Warning. Insufficient memory for the translation.

TOPS Spool

Troubleshooting

TOPS Spool Does Not Install Properly

The most likely reason that TOPS Spool cannot be installed is that there are not enough desk accessory and/or driver slots left in your System file. In order to run TOPS Spool, the System file must have at least one free desk accessory slot and either one free driver slot or an additional free desk accessory slot. There are 15 available desk accessory slots, and some desk accessories require two.

Remove one of your desk accessories with the Font DA/Mover and attempt to install TOPS Spool once again (you might have to remove two). Remember to select the Shutdown option in the Special menu and restart your Macintosh.

TOPS Spool Does Not Appear on the Desk Accessory Menu

You have probably launched an application (referred to as switch-launching) from a disk containing a System folder that does not have TOPS Spool installed. Install TOPS Spool onto that disk or always switch-launch to a disk containing a System folder in which TOPS Spool is installed, or avoid switch-launching.

The Laser Printer Icon Flashes But No Printing Occurs

If TOPS Spool encounters a Macintosh or laser printer error while printing a document, printing is halted (the "Print Spooled Output While I Work" button is automatically turned off) and background printing is suspended. The document that was printing when the error occurred remains in the queue and spooling continues.

To resume printing, correct the problem that caused the printing error (TOPS Spool will give you a message concerning the error), then turn Print Spooled Output While I Work back on and printing will continue.

TOPS Spool is Not Spooling

The most likely possibilities are that either you have activated the Stop spooling option in the TOPS Spool desk accessory, or TOPS Spool's spooling disk has been ejected or dismounted. Deactivate the Stop spooling option or choose another spooling disk with the Change Disk... command from the TOPS Spool menu in the TOPS Spool desk accessory.

There are many other less likely possibilities:

- You are not using version 3.2 or higher of the System file.
- The TOPS Spool "Spooler" file is not in the System Folder.

- You booted with a disk that did not have TOPS Spool installed and switch-launched to one that did. This will not work. You must boot from a disk that has TOPS Spool installed in its System folder. The TOPS Spool printing options are remembered in the System file in which TOPS Spool was installed.

- The application (or desk accessory) you are printing with is an old one that does not follow current Print Manager protocols.

TOPS Spool beeps when attempting to open the TOPS Spool Desk Accessory (DA)
There is not enough free memory to open the Desk Accessory. Reduce the amount of memory used by: reducing the size of the memory cache, reducing the size of your RAM disk, or closing unnecessary DAs and windows.

TOPS Spool beeps when "Spool PostScript File..." is chosen from the TOPS Spool menu in the TOPS Spool DA.
Spooling will not work if spooling is turned off. Check to see if the "Stop spooling" in the TOPS Spool DA Options window is darkened. If it is, turn off the "Stop spooling" button and try again.

TOPS Spool causes a system error when an AppleShare volume is selected as the spool disk.
This is a bug with AppleShare 1.0. The problem is fixed in AppleShare 1.1. Contact your dealer about an upgrade.

The fonts Avant Garde, N Helvetica Narrow, New Century, Schoolbook, Palintino, Zapf Chancery, and Zapf Dingbats come out in Courier.
These are LaserWriter Plus fonts. LaserWriter Plus fonts come out in Courier when spooled to a LaserWriter. There are a number of solutions: spool to a LaserWriter Plus, upgrade your LaserWriter to a LaserWriter Plus, or change to a LaserWriter font.

LaserFonts from third parties—such as Adobe, Century, and Casady—are printed in Courier when using TOPS Spool.
Check the LaserWriter driver version number by selecting "Print..." and looking in the upper right hand corner of the LaserWriter print dialog box. Automatic font downloading is not supported by drivers 3.2 and below. Also check to see if the downloadble font is in the system folder and has not been renamed.

TOPS Spool's "Spool PostScript File..." does not print PostScript files from Adobe Illustrator.
PostScript files generated by Illustrator do not have print commands. This is not a bug. The PostScript files created by Illustrator are designed to be included in other documents such as a PageMaker documents. Therefore,

these files do not include print commands. If you want to print the illustration, print it from within Illustrator.

A PageMaker document can't be printed with TOPS Spool.
If a the document is being printed to a LaserWriter instead of a LaserWriter Plus, you will experience problems whether you use TOPS Spool or print directly. You should consider an upgrade to a LaserWriter Plus.

A "4101 System Error" appears when you attempt to spool.
This means that the LaserWriter has not been found. Select the LaserWriter from the Chooser. If you can't see the LaserWriter in the Chooser, check to see that the LaserWriter is on and that there are no loose cable connections in the network.

When spooling to a remote volume over TOPS, spooled documents from other users are visible.
These are spooled documents from other users using the same shared spool disk. Spooling over the network increases network traffic significantly and degrades network performance. It is highly recommended that all users spool to a local disk to maintain network performance.

TOPS Spool shows the message "LaserPrint Error: Limitcheck (or Typecheck); Offending Command «error message».
The most likely cause is that another user used a different version of the LaserWriter and LaserWriter Prep files. Check the LaserWriter driver versions by selecting "Print..." and looking in the upper right hand corner of the LaserWriter print dialog box. Make sure all the users on the network have the same version of the LaserWriter drivers.

The following message appears: "Screen (bitmap) image of Chicago font is being created because it does not reside in the printer".
This message appears when a spooled document contains screen fonts. Screen fonts, such as Chicago, do not have a corresponding LaserWriter font. LaserWriter fonts are stored in a PostScript format, while screen fonts are stored in a bitmap format. When the LaserWriter recognizes a screen font, it prints a bitmap image.

TOPS Spool does not work with a serially-connected MacBottom hard disk.
Request a new driver from the manufactures of MacBottom, Personal Computer Peripherals Corporation, at 800/622-2888 or 813/884-3092. Please note that this problem does not apply to SCSI-connected MacBottom hard disks.

Error Messages

Do you want the output currently being printed to be cancelled too?

If you turn off the "Print spooled output while I work" option while one of your outputs is still being printed, this warning message will appear. You can allow the laser printer to finish by clicking on the NO button.

The installer can't install the driver and/or the desk accessory because there aren't enough free slots available.

There are too many desk accessories already installed in your System file. Remove an unwanted desk accessory with the Font DA/Mover and try installing TOPS Spool again (you might have to remove two).

The installer can't run because of a naming conflict with the TOPS Spool driver and/or desk accessory.

This occurs in the unlikely case that you already have a desk accessory or driver called TOPS Spool installed in your System file.

The installation failed because of a Resource Manager error (disk full?).

This installation error most likely occurs when your disk or its directory is full. If there is enough free disk space, this error may be caused by an unexpected system error. Restart your Macintosh and try installing TOPS Spool again. If the problem persists, call your dealer or TOPS Technical Support.

The LaserWriter needs to be initialized. You can do this by selecting the "Prep Laser" item in the TOPS Spool menu.

If a spooled document is the first one to print on the laser printer since it was turned on, you must choose the Prep Laser option in the TOPS Spool desk accessory in order to initialize the laser printer. This installs the contents of the Laser Prep file in the LaserWriter, which is needed for most LaserWriter printing (the most notable exception being PageMaker printing). The Laser Prep file must be in your System folder. The "Print while I work" option will be automatically turned off until you select Prep Laser, then automatically be turned back on.

The LaserWriter needs to be initialized for PageMaker. You can do this by selecting the "Prep Aldus" item in the TOPS Spool" desk accessory menu.

If a spooled PageMaker document is the first one to print on the laser printer since it was turned on, you must choose the Prep Aldus option in the TOPS Spool desk accessory in order to initialize the laser printer for PageMaker. This installs the contents of the Aldus Prep file in the LaserWriter, which is needed for PageMaker printing. The Aldus Prep file must be in your System folder. The "Print while I work" option will be automatically turned off until you select Prep Aldus then will be automatically turned back on.

The printing of FILENAME has been cancelled because AppleTalk is not connected.

In order to print to a laser printer, your Macintosh must be connected to AppleTalk. When you have connected the AppleTalk cables to the back of your Macintosh, start up the AppleTalk software with the Control Panel or Chooser desk accessory.

The printing of FILENAME has been cancelled because of a communications error.

Because of excessive network traffic, the connection to the LaserWriter has been broken and the printing of the output from "FILENAME" was cancelled. Printing will start over again with "FILENAME" as the next spooled output to print.

The printing of FILENAME has been cancelled because the LaserWriter could not be found.

There is most likely a physical break somewhere on the AppleTalk network, or possibly the laser printer has failed or simply been turned off. Check to see that an existing LaserWriter is selected in the Chooser. If spooled output is directed towards a LaserWriter that does not exist on the network, it should be removed from the queue and reprinted after selecting a new LaserWriter. Check your connections and/or restart your laser printer.

The printing of FILENAME has been cancelled because of a System Error.

This error message results when any unexpected system error occurs, and typically will result from an error in reading the spooled output. If it occurs, go back to your application and spool your output again.

This output will not be spooled because there is insufficient memory to do so.

Too much spooled output has been accumulated. In this case printing proceeds directly, bypassing the spooler.

Some previously spooled output was found. Do you want to start printing it?

TOPS Spool is designed to survive a system shutdown without losing any spooled output. This statement appears after you restart a Macintosh where previously spooled output remains to be printed. It may also appear after you use the Change Disk... option in the TOPS Spool desk accessory menu. If you click the NO button, previously spooled output is not removed, instead the "Print spooled output while I work" option is turned off.

Spooling was cancelled because of a System Error

An unexpected system error occur while spooling the output. In this case the output is lost and must be spooled again. This will most likely occur if your disk or your disk's directory becomes full while spooling.

Warning: Moving this output will cause printing in progress to be cancelled. Are you sure you want this to happen?
If you change the order of the outputs in the list of Spooled Output by dragging your first output after it has begun printing, its printing must be cancelled. This warning statement gives you a chance to cancel the change.

Warning: There is spooled output still not printed. Are you sure you want to do this?
This warning statement appears if you attempt to change the disk TOPS Spool is writing its spooled output on and there is spooled output remaining to be printed. If you click the YES button, the spooled output is not lost, but it will not appear in the list of Spooled Output until you change back to that disk again.

Index

1-2-3 6, 55, 57, 58
AppleTalk 5, 11
auto-mount 31
auto-publish 23, 25
backup copy 11
client 8, 10
Copy button 18, 35
databases 55
dBase II 56
dBase III 56, 58
dBase Mac 56, 58
DCA 54, 56
DIF 56
disk servers 4
downloadable fonts 75
Ethernet 5
Excel 6, 56, 58
file names 39
Finder 31, 35, 43, 44
folder 7, 21, 29
Font/DA Mover 12
FullPaint 76
getting started 1
Help button 2, 18
HFS 8, 20, 30, 39, 44
Installer 12
InterBase 13
Jazz 56, 58
LAN 3, 9
LaserWriter 63
list of the clients 24
local 8
Lotus 6, 55, 57
MacPaint 76
MacWrite 54, 57
many writers 22
MFS 8, 20, 30, 39, 44
Microsoft Word 58
mount 2, 8
Mount button 18, 29
MS-DOS 5
MultiMate 54, 57
Multiplan 55, 57

Network 6
network activity light 45
one writer only 22
Open button 2, 19
Option key 1, 43, 45
PageMaker 58, 75
passwords 22, 29
PC-DOS 5
PostScript 65
publish 2, 7, 20, 23
Publish button 18
Remember button 23
remote 8
restrict access 22
serial number 11
server 7, 10, 19, 27
Shut Down 24
signing on 16
spooling 65
spreadsheet 55
Start TOPS 13
station 7
station name 16
SuperPaint 76
Switcher 43
SYLK 57
Symphony 55, 57
text conversion 37
TOPS Copy 35
TOPS desk accessory 12, 15
TOPS Key 11
TOPS Prep 16
TOPS Spool 63
TOPS Technical Support 83
TOPS TeleConnectors 6
TOPS Translators 6, 47
UNIX 6, 29
unmount 2, 32
unpublish 2, 23
updating TOPS 13
volume 7, 17
Word Perfect 58
word processing 54
WordStar 54, 58
write-protected 22
zone 7, 17

K2052107